The Mining Journal

Established 1835 — Railway & Commercial Gazette

Vol. CCXXXVI No. 6027 — LONDON, FEBRUARY 23, 1951 — PRICE 8d

Good Equipment

Part of the equipment necessary for successful mining is a sound banking service. The Bank of Australasia maintains branches at important mining centres in Australia and New Zealand and has long been successfully associated with enterprises of this nature.

THE BANK OF AUSTRALASIA

(Incorporated by Royal Charter 1835)

MANAGER: G. C. Cowan
HEAD OFFICE: 4 Threadneedle Street, London, E.C.2.
STRAND BRANCH: 263 Strand W.C.2. (opposite Australia House)

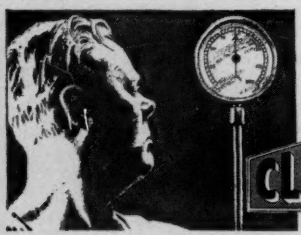
"HUNSLET" LOCOMOTIVES
STEAM & DIESEL
SPECIAL DIESELS FOR UNDERGROUND WORKING
THE HUNSLET ENGINE Co. Ltd. LEEDS 10

BRITAIN'S BEST CONVEYORS by
RICHARD Sutcliffe LIMITED
UNIVERSAL WORKS · HORBURY WAKEFIELD
Telephone: HORBURY 350
Telegrams: SUTCLIFFE HORBURY
LONDON OFFICE: 235 VAUXHALL BRIDGE ROAD
LONDON S.W.1 Telephone: VICTORIA 0944

Triefus
INDUSTRIAL DIAMONDS
DIAMOND DRILL BITS
DIAMOND BOART
DIAMOND POWDER
TRIEFUS & CO. LTD.
32, Holborn Viaduct, London. Central 9923

LABORATORY APPARATUS
for all the sciences and for the chemical and physical examination of metals, alloys and all mining products.
Write for Catalogues M15
GRIFFIN & TATLOCK LTD.
KEMBLE STREET, LONDON, W.C.2

"RAPID" & "RAPIDITY"
ELECTRO-MAGNETIC
ORE SEPARATORS
RAPID MAGNETTING MACHINE Co. Ltd.
Magnet Works: LOMBARD ST. BIRMINGHAM ENG.
Magnetic Separators for every purpose

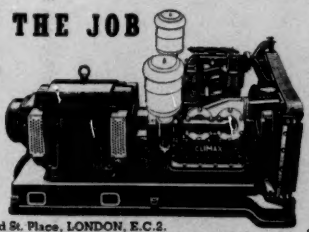


DESIGNED FOR THE MAN ON THE JOB

Backed by a high-speed, direct-coupled CLIMAX Compressor, the man at the rock-face can rely on his air-pressure and get the very best out of his drill. Results all over the world have proved their economy and rugged reliability. Output up to 325 cu. ft./min. F.A.D. at 100 lbs./sq. in. Ask for Catalogue.

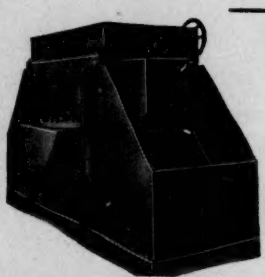
CLIMAX

FIXED AND PORTABLE
AIR COMPRESSORS
For Petrol, Diesel or Electric Drive



CLIMAX ROCK DRILL & ENGINEERING WORKS LTD. 4 Broad St. Place, LONDON, E.C.2.

TAS/Cx.439d



DAVIES Model 47
MAGNETIC SEPARATOR

CONCENTRATION OF MINERALS
with Highest Efficiency and Lowest Cost

Use DAVIES
MAGNETIC SEPARATORS
CONCENTRATING TABLES
AND SCREENS

DAVIES MAGNET WORKS LTD.
WARE · HERTFORDSHIRE · ENGLAND PHONE · WARE 489. CABLES DAMAG WARE

The detachable bit with the perfect lock

The Canadian

CRAIG

DETACHABLE BIT

now made by

BEDFORD'S

Features the Archimedes Spiral. Reduces drilling costs

The famous trouble-free Craig Bit, invented in Canada with World patents, is now Sheffield-made and sold throughout the Sterling area without dollar payments. Advantages include:-

Firm Attachment—The normal taper or screwthread attachment is replaced by an Archimedes Spiral. Two corresponding spirals are forged on the bit socket and on the steel rod end. As the steel turns they engage in a powerful grip. The greater the hammer twist the tighter the lock.

Easy Detachment—A few sharp hammer blows and the bit is off. Rods are reconditioned by forging on a drill sharpener.

Good for the Hardest Rock—The Craig is suitable for all rock conditions — especially tough ones.

Economy—Craig 'one-pass' bits cost so little that they can be thrown away without resharpening.

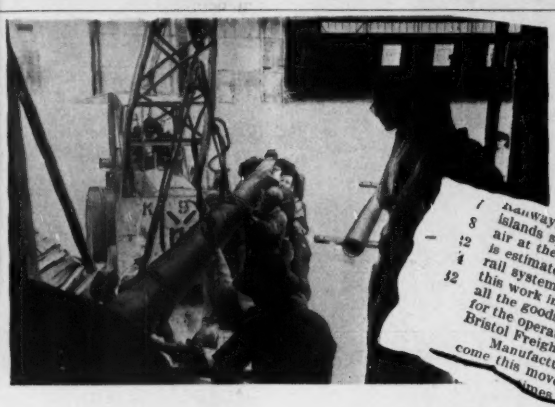
Standard Craig Bits have centre hole only but can be supplied with side hole if required. Available in two size ranges suitable for ⅞" steels or 1" steels and over. Packed in double-sacks — 200 to a bag. Detailed enquiries welcomed.

USE BEDFORD'S HOLLOW DRILL STEEL WITH YOUR CRAIG BITS

JOHN BEDFORD & SONS LTD.

Established 1792

LION WORKS · SHEFFIELD · ENGLAND



★ *One of the many awkward loads carried by a Bristol Freighter in a recent Middle East operation involving the transport of heavy oil-well equipment, was the Rotary Kelly, illustrated here while being loaded. Nearly 40 ft. in length and weighing over two tons, it provided a unique demonstration of the Freighter's ability to carry cargoes which had never before travelled by air.*

[illegible] services across [illegible] between the two islands speeded up. On present figures cargo is being carried by air at the rate of nearly 16,000 tons a year, and this traffic alone is estimated to have put an additional £30,000 of revenue into a rail system that was showing losses. The [redacted] employed on this work in the past, however, have proved incapable of handling all the goods that were offering and now tenders are being called for the operation under charter of cargo aircraft of the type of the Bristol Freighter.

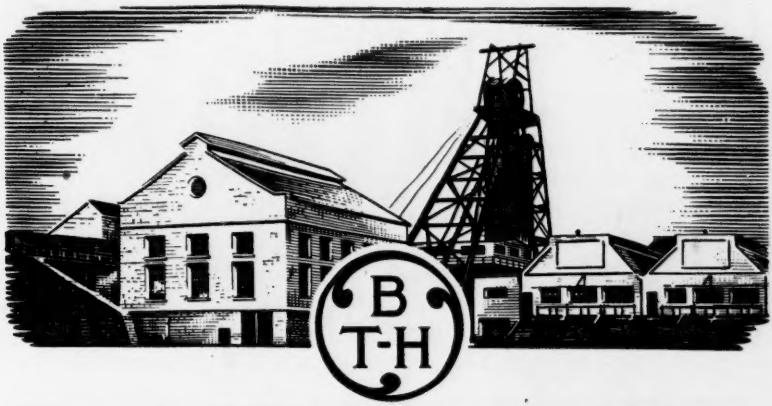
Manufacturers, merchants and other businessmen will welcome this move, because the demand for the service in the past [illegible] reached [illegible] increasing proportions.

"WHITE'S AVIATION"—N.Z.
October 2nd, 1950

The Bristol Freighter is capable of carrying many types of cargo which other aircraft are unable to accommodate

THE Bristol AEROPLANE COMPANY LIMITED · ENGLAND

937A



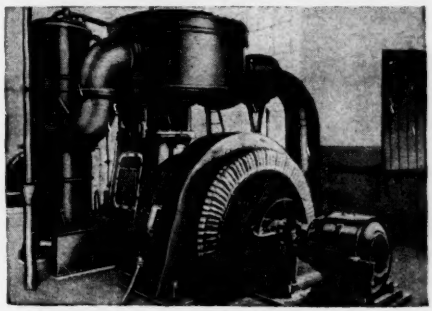
Electrical Equipment for Mining

Compressors

Where bulk electricity supply is brought to the mine, motor-driven compressors are usually employed and a reciprocating compressor driven by a BTH synchronous motor is an efficient and convenient arrangement much in favour.

For the larger demands centrifugal compressors are needed and BTH manufacture the complete unit comprising compressor of modern design and high efficiency with steam turbine or electric motor and speed increasing gears.

BTH have been installing equipment in mines for half a century, and one reason for their world-wide reputation is the extensive research undertaken into the requirements of the mining industry. Backed by unrivalled manufacturing resources, BTH is today taking a leading part in the supply of equipment for reconstruction and modernisation schemes both in this country and abroad.



One of two 550-H.P., 250 r.p.m., synchronous induction motors driving air-compressors in a Rhondda Valley Colliery.

THE
BRITISH THOMSON-HOUSTON
COMPANY LIMITED, RUGBY, ENGLAND

A4990

Principal Overseas Representatives:

AUSTRALIA, Sydney: Australian General Electric Proprietary Ltd., G.P.O. Box 2517. Melbourne: Australian General Electric Proprietary Ltd., G.P.O. Box 538F.

CHINA: Hong Kong: Inniss & Riddle (China) Ltd., 1st Floor David House, 67-69, Des Voeux Road Central.

NEW ZEALAND, Wellington: National Electrical & Engineering Co., Ltd., P.O. Box 1055.

INDIA: Associated Electrical Industries (India) Ltd., Calcutta P.O. Box 271, Bombay P.O. Box 484.

PAKISTAN: Associated Electrical Industries (Pakistan) Ltd., Karachi P.O. Box 746, Lahore P.O. Box 146.

SOUTH AFRICA, Johannesburg: The British Thomson Houston Co., (South Africa) (Pty), Ltd., P.O. Box 482. Capetown: Wilson & Herd Engineering (Pty.), Ltd., P.O. Box 1459.

WEST AFRICA, Sekondi, Gold Coast, Colony: The West African Engineering Co., P.O. Box 8.

RHODESIA, Bulawayo: Johnson & Fletcher, Ltd., P.O. Box 224.

KENYA COLONY, A. Baumann & Co., Ltd., P.O. Box 538 Nairobi. P.O. Box 323 Mombasa.

TANGANYIKA, A. Baumann & Co., Ltd., P.O. Box 277 Dar-es-Salaam.

UGANDA, A. Baumann & Co., Ltd., P.O. Box 335 Kampala.

and others throughout the world

MORRIS pumps by FRASER & CHALMERS

Centrifugal
Sand and Slurry Pumps

Fraser & Chalmers Centrifugal Sand Pumps are designed for the efficient handling of ore pulps, and similar abrasive substances, the body and other wearing castings being made of special "DIAMITE" iron which has proved in practice to be highly resistant to the scouring action of abrasive pulps.

They are made in sizes from 1½" upwards. The type of drive can be arranged to suit requirements. A special staff is at your service to study your pumping problems.

F&C

FRASER & CHALMERS ENGINEERING WORKS

ERITH · KENT LONDON OFFICE MAGNET HOUSE · KINGSWAY · W.C.2

PROPRIETORS: THE GENERAL ELECTRIC CO. LTD.

Supplement to The Mining Journal February 23, 1951

The Mining Journal

Established 1835

INDEX

To VOLUME TWO-HUNDRED-AND-THIRTY-FIVE

JULY - DECEMBER 1950

INDEX CLASSIFICATION

Metals and Minerals	Page 1
Countries	Page 3
Men, Methods and Machines	Page 5
Companies and other Public Bodies	Page 6

Metals and Minerals

Alabaster
Rising interest in Argentina's mining development... ... C 160

Aluminium
Aluminium alloy castings ... R 140
A North American aluminium war ... ... A 162
Castings in nickel-aluminium bronze ... ... R 163
Europeans to make aluminium scrap study in U.S. ... ... N 202
Outlook for bauxite in Jamaica N 223
An introduction to materials and fabrication in aluminium R 283
Norway ... ... C 388
Western U.S. ... ... C 415
Aluminium for road vehicle bodies ... ... R 444
The Commonwealth's largest aluminium rolling mill ... A 479
New aluminium alloy diaphragm valve ... ... M 511
Internationalizing metals and minerals ... ... N 557
The metal shortage ... N 583
India ... ... C 584
Mineral production in Brazil ... C 635
New aluminium dipping process T 639
(*See also* weekly notes under "Metals, Minerals and Alloys")

Ammonia
South Africa ... ... C 35
Synthetic ammonia from methane gas ... ... P 94
Industrial expansion in South Africa ... ... A 27

Anthophyllite
Mining in Kenya ... ... N 179

Antimony
The fire refining of copper ... A 36
Metals, minerals and alloys MT 92, 230, 254, 366, 446, 513
South Africa ... ... C 131
Studies of Mexican antimony deposits ... ... N 336
The Ruthenburg process for precious metal recovery ... A 587
Moroccan mineral output P 626
Mineral production in Brazil... C 635

Arsenic
The fire refining of copper ... A 36

Asbestos
Canada ... ... C 9, 440
Western Australian output in 1949 ... ... N 85
Metals, minerals and alloys MT 92, 305, 366, 446
South Africa ... ... N 131
The asbestos market ... A 162, 638
Mining in Kenya ... ... N 179
South Africa's changing horizons N 273
Madras mineral wealth to be exploited ... ... A 279
Russian exports of strategical materials ... ... N 534
Mining boom at Mashaba ... P 643

Barytes
Modernization of Scotland's oldest barytes mine ... ... A 134
Mineral resources of Colombia A 205
Madras mineral wealth to be exploited ... ... A 279
Benbulben mines to re-open ... N 584

Bauxite
The mining industry in Malaya A 65
India, Pakistan and Burma ... C 87
India ... ... C 180, 504, 584
Outlook for bauxite in Jamaica N 223
Colonial geology and mineral resources ... ... R 365
Norway ... ... C 388
The Cameroons, U.K. Trusteeship report for 1949... ... R 478

Bentonite
India ... ... C 180
Bentonite use in U.S. ... ... P 626

Beryllium
Rare minerals in Brazil... ... C 86
India ... ... C 180
Metals, minerals and alloys ... MT 305
Beryl production expanding in Southern Rhodesia ... ... P 626

Bismuth
The fire refining of copper ... A 36
Metals, minerals and alloys ... MT 427
The Ruthenburg process for precious metal recovery ... A 587

Borates
Rising interest in Argentina's mining development... ... C 160
Is Tibet's mineral wealth invaders' objective?... ... N 558

Bronze
New bronze alloy ... ... T 40
Nickel-aluminium bronze ... R 165
Norway ... ... C 388

Cadmium
Metals, minerals and alloys MT 114, 254, 284
The Ruthenburg process for precious metal recovery ... A 587

Calcite
India ... ... C 180
Madras mineral wealth to be exploited ... ... A 279

Carbon
Delanium carbon, a new British invention ... ... A 250
Powell Duffryn... ... ... J 455
E.C.A. sponsored carbon black plant for Britain ... ... N 159

Calcium
Norway ... ... C 388
Internationalizing metals and minerals ... ... N 557

Cassiterite
Portugal... ... ... C 63
Rare mineral in Brazil ... C 86
N. Nigerian mines in 1948 ... A 109

Cement
Mineral resources of Columbia A 205
India and Ceylon ... ... C 318

Cerium
Rare mineral in Brazil ... C 86

China Clay
India, Pakistan and Burma ... C 87
No Government aid for Cornish mines ... ... N 129
Madras mineral wealth to be exploited ... ... A 279
Norway ... ... C 388

Chlorite
Rare mineral in Brazil ... C 86

Chrome
India, Pakistan and Burma ... C 87
Metals, minerals and alloys MT 446, 590
Mining boom at Mashaba ... P 643
Ferro-chrome factory at Gwelo P 643

Chromite
India ... ... C 180
Madras mineral wealth to be exploited ... ... A 279
Indian mineral production ... P 293
Metals, minerals and alloys ... MT 305
India and Ceylon ... ... C 321
Norway ... ... C 388
Russian exports of strategical materials ... ... N 534

Clay
India ... ... C 180
Rising interest in Argentina's mining development... ... C 160
Mineral resources of Colombia A 205
India and Ceylon ... ... C 318

Coal—Africa
N. Nigerian mines in 1948 ... A 109
South Africa ... ... C 131, 439
Target for S. Rhodesia's oil from coal scheme ... ... O 137
Kenya coal discovery ... ... P 264
South Africa's changing horizons P 272
Mining and development in Katanga ... ... A 361
Trusteeship reports on Togoland and Tanganyika ... ... R 394
New coal discovery in Northern Rhodesia ... ... N 437
Coal supply position in the Rhodesias ... ... N 473
New coal area near Wankie ... P 643
Mining boom at Mashaba ... ... P 643

Coal—Asia
The mining industry in Malaya A 65
India, Pakistan and Burma ... C 87
India ... ... C 180, 504, 583
Indian mineral production ... P 293
Indian coal densities ... ... T 364
Is Tibet's mineral wealth invaders' objective? ... ... N 558

Coal—Australasia
Western Australian output in 1949 ... ... N 85
Australia ... ... C 475

KEY TO CODE LETTERS

A	*Articles*
B	*Business Items*
C	*Our Own Correspondent*
CN	*Company Notices*
CS	*Company Shorts*
D	*Dividends*
DR	*Directors' Reports*
J	*Company News and Views*
L	*Correspondence*
M	*Machinery and Equipment*
ME	*Company Meetings*
MM	*Mining Men and Matters*
MR	*Mine Returns*
MT	*Metals, Minerals and Alloys*
N	*Notes and Comments*
O	*Oil Notes*
OB	*Obituaries*
P	*Paragraphs*
PP	*Points from Parliament*
R	*Reviews*
S	*Mining Share Markets*
T	*Technical Briefs*

This Index shows the wide variety of interests covered in connection with mining and its allied industries and well illustrates the wide appeal of *The Mining Journal*.

PLEASE FILE THIS INDEX

Opencast coal discovery in New Zealand ... ... P 626

Coal—Europe

Mineral development in Yugoslavia ... ... P 293
Uneconomic mining in Sardinia N 437
Coal mining in Poland... ... N 608

Coal—Great Britain

Coal nationalization ... ... C 62
Where oil helps coal ... ... T 113
The M. and C. Stripper A 163
News from Scotland ... ... A 185
N.C.B. March quarter's record revenue ... ... N 223
Important expansion to the Cannock Coalfield ... ... N 223
Some recent work on the nature of coal ... ... A 319
Powell Duffryn ... ... N 455
Underground gasification of coal in England ... ... M 483
Britain's national coal plan ... N 503
The coal crisis ... ... N 583
(*See also* weekly report under "Metals, Minerals and Alloys," under National Coal Board and under Coal Technology)

Coal—The Americas

Coal production using A.C. power ... ... T 40
Mineral resources of Colombia A 205
Trends in mechanical mining and preparations of coal for steam generation ... ... A 226
Coal recovery by flotation fines T 540
Mineral production in Brazil ... C 635
Coal-burning gas-turbine locos T 639

Coal—Various

Coal mine returns MR 73, 192, 308, 459, 520
The world's iron ore resources N 533
Experimental loading without drilling and shooting ... M 418

Cobalt

The practice of mineral dressing R 13
Mining and development in Katanga ... ... A 361
Engineering features in N. Rhodesian base metal mining A 391
Selective flotation process at Blackbird ... ... T 540
Internationalizing metals and minerals ... ... N 557
Moroccan mineral output ... P 626
Metals, minerals and alloys MT 513, 563

Coke

Australia ... ... C 161

Columbite

Rare mineral in Brazil... ... C 86
N. Nigerian mines in 1948 ... A 109
Columbium in Norway ... C 110
Bisichi Tin Co. (Nigeria) Ltd. J 191
Norway ... ... C 388
The Cameroons, U.K. trusteeship report, 1949 ... ... R 478

Corundum

South Africa ... ... C 131
Madras mineral wealth to be exploited ... ... A 279

Copper

The practice of mineral dressing R 13
Dangers of the Government policy in relation to base metals ... ... N 33
The fire refining of copper A 36, 66, 88
Korean war stimulates Japanese industry ... ... N 85
Canada ... ... C 109, 248, 440, 535
South Africa ... ... C 131
Western U.S. ... C 132, 225, 414
Yugoslav copper mining development ... ... A 133
Australia ... ... C 161, 275, 359, 609
India ... ... C 180, 504
Mineral resources of Colombia A 205
Miscellaneous mining progress reports ... ... A 215, 563
South Africa's changing horizons N 273
New copper deposits in Saxony P 292
Indian mineral production ... P 293
Explosives factory for Northern Rhodesia proposed ... ... N 300
International organization and the mineral industry ... N 335
Mining and development in Katanga ... ... A 361
Norway ... ... C 388
Engineering features in Northern Rhodesian base metal mining ... ... A 390
Coal supply position in the Rhodesias ... ... N 473
Russian exports of strategical materials ... ... N 534
Selective flotation process at Blackbird ... ... T 540
Internationalizing metals and minerals ... ... N 557
The metal shortage ... ... N 583
Mineral production in Brazil ... C 635
Gold and silver in Japan ... ... N 608
(*See also* weekly report under "Metals, Minerals and Alloys" and Mining Share Markets)

Cryolite

Norway ... ... C 388

Cyanide

Industrial expansion in South Africa—I ... ... A 276

Diamonds

Reported diamond and gold discovery in Brazilian Guiana N 8
Australia ... ... C 64
Belgian diamond trade in June P 94
German diamond cutters boycotted ... ... P 101
South Africa's changing horizons N 273
Post devaluation survey ... N 274
India and Ceylon ... ... C 318
New electrical diamond separator ... ... M 445
Venezuela's gold and diamonds N 474
Electrostatic separation of diamonds ... ... A 475
Russian exports of strategical materials ... ... N 534
The recovery of diamonds at the Cons. Diamond Mines of South West Africa Ltd. A 538
Mineral production in Brazil ... C 635

Diatomite

Mining in Kenya ... ... N 179

Dolomite

India, Pakistan and Burma ... C 87

Emeralds

Mineral resources of Colombia A 205

Felspar

Rising interest in Argentina's mining development ... C 160

Fluorspar

U.S. fluorspar in 1949... ... P 71

Galena

N. Nigerian mines in 1948 ... A 119

Gold—Australia

Mine returns MR 75, 192, 309, 458, 520
Western Australian output in 1949 ... ... N 85
Australia C 161, 275, 359, 475, 609

Gold—Canada

Canada ... C 9, 108, 248, 300, 440, 535
Industrial expansion in South Africa ... ... A 301
Canada frees the dollar ... N 317
Canadian gold bonus basis to be revised ... ... N 474

Gold—India and Ceylon

Mine returns MR 75, 192, 309, 458, 520
Indian mineral production ... P 293
The Kolar gold mines ... ... A 450

Gold—South Africa

Rand mine returns MR 53, 264, 345, 454, 620
Development Council on Evolution of the O.F.S. ... ... N 61
Kaffir share yields and life factor ... ... J 73
South Africa ... C 131, 439, 559
A review of the Rand June quarterly returns ... ... A 181
New Anglo South African gold deal ... ... N 201
Fresh capital for the O.F.S. N 247
South Africa's changing horizons N 272
Industrial expansion in South Africa ... ... A 276
Progress in the O.F.S. ... C 337
Gold from the depths ... R 365
The Orange Free State Gold Mines ... ... R 419
Rand September quarterlies ... A 507
Leases for the Free State Gold Mines ... ... A 536
Gold share down-trend... ... J 640
(*See also* weekly report under "Metals, Minerals and Alloys" and Mining Share Markets)

Gold—Southern Rhodesia

Southern Rhodesia ... ... C 34
Southern Rhodesia's declining gold output ... ... N 130

Gold—West Africa

Mine returns MR 75, 192, 309, 458, 520
Rhodesia-Katanga's interest in Geita ... ... J 171
The Cameroons, U.K. trusteeship report for 1949 ... R 478

Gold—Various

Reported diamond and gold discovery in Brazilian Guiana N 8
The practice of mineral dressing R 13
Gold cyanidation plant for El Sid gold mine ... ... M 14
The mining industry in Malaya A 65
Rare mineral in Brazil ... C 86
Minor gold producers in Tropical America ... ... N 107
N. Nigerian mines in 1948 ... A 109
Mining conditions in Bolivia... N 129
Western U.S. ... ... C 132
Irish gold and base metals ... N 159
Mining in Kenya ... ... N 179
The Kilo-Moto gold mines ... A 183
Safeguarding U.K's gold ... N 202
Mineral resources of Colombia... A 205
Miscellaneous mining progress reports ... ... A 215
"More realistic" gold price ... N 248
Venezuela's gold and diamonds N 474
The geology and mineral resources of the neighbourhood of Chegar Perah and Merapoh, Pahang ... ... R 478
British Guiana gold mining—a correction ... ... P 535
Is Tibet's mineral wealth invaders' objective? ... ... N 558
The Ruthenburg process for precious metal recovery ... A 587
Gold and silver in Japan ... N 608
(*See also* weekly report under "Metals, Minerals and Alloys")

Graphite

India, Pakistan and Burma ... C 87
The Cameroons, U.K. trusteeship report for 1949 ... R 478
India ... ... C 504

Gravel

Mineral resources of Colombia... A 205

Gypsum

Mining in Kenya ... ... N 179
Rising interest in Argentina's mining development ... ... C 160
Mineral resources of Colombia... A 205
Madras mineral wealth to be exploited ... ... A 279
Norway ... ... C 388

Ilmenite

The mining industry in Malaya A 65
Rare mineral in Brazil ... ... C 86
India ... ... C 180

Iron and Steel—Europe

New Swedish pig-iron process T 40
Turkish iron ore-mining P 101
Swedish iron and steel developments ... ... P 292
Norway ... ... C 388
Russian exports of strategical materials ... ... N 533

Iron and Steel—Great Britain

Indecent haste to nationalize steel ... ... N 357
A new iron ore field ... ... N 473
The metal shortage ... ... N 583
A jettisoned agreement ... N 607
(*See also* weekly report under "Metals, Minerals and Alloys")

Iron and Steel—North America

Canada ... ... C 9, 300, 440, 535
Oxygen in steel making ... T 364
Internationalizing metals and minerals ... ... N 557
Iron in Quebec-Labrador ... A 636
Continuous steel casting ... T 639

Iron and Steel—Various

Titanium and its alloys ... A 12
The practice of mineral dressing R 13
£11,000,000 needed for Riscom expansion ... ... N 61
The mining industry in Malaya A 65
Rare mineral in Brazil ... C 86
India, Pakistan, Burma ... C 87
Konakry iron-ore deposits ... A 90
South Africa ... ... C 131
Rising interest in Argentina's mining development ... N 160
A steel industry for Venezuela N 180
Mineral resources of Colombia A 205
Industrial expansion in South Africa ... ... A 276
Madras mineral wealth to be exploited ... ... A 279
Egyptian iron ore reserves P 292
India's steel industry ... ... P 292
Indian mineral production ... P 293
Stainless steel without nickel... T 304
India and Ceylon ... ... C 318
Steel plant for Venezuela ... N 336
Australia ... ... C 359
Mining and development in Katanga ... ... A 361
India ... ... C 390, 504
Trusteeship reports on Tanganyika and Togoland ... R 394
The world's iron ore reserves... N 533
Is Tibet's mineral wealth invaders' objective? ... ... N 558
Gold and silver in Japan ... N 608
Moroccan mineral output ... P 626

Kaolin

The mining industry in Malaya A 65
Trusteeship reports on Tanganyika and Togoland ... R 394

Kyanite

Mining in Kenya ... ... N 179

Labradorite

India ... ... C 180

Lead

The practice of mineral dressing R 13
The fire refining of copper ... A 36
Australia ... ... C 63, 609
Korean war stimulates Japanese industry ... ... N 85
Western Australian output in 1949 ... ... N 85
Canada ... ... C 109, 248, 440
N. Nigerian mines in 1948 ... A 109
Mining conditions in Bolivia ... N 129
Western U.S. ... ... C 132, 225, 415
Irish gold and base metals ... N 159
"Slag fuming" ... ... T 188
Mineral resources of Colombia... A 205
Leadhills may be re-opened ... N 274
Spain ... ... C 389
Engineering features in Northern Rhodesian base metal mining A 391
Trusteeship reports on Tanganyika and Togoland ... R 394
Russian exports of strategical materials ... ... N 534
The Ruthenburg process for precious metal recovery ... A 587
Gold and silver in Japan ... N 608
Moroccan mineral output ... P 626
Mineral production in Brazil... C 635
(*See also* weekly notes under "Metals, Minerals and Alloys")

Lignite

India ... ... C 180
Madras mineral wealth to be exploited ... ... A 279
Colonial geology and mineral resources ... ... R 385

Limestone

India and Ceylon ... C 87, 318
Madras mineral wealth to be exploited ... ... A 279
Indian mineral production ... P 293
Mining and development in Katanga ... ... A 361
The Cameroons, U.K. trusteeship report for 1949 ... ... R 478
India ... ... C 504

Magnesium

India ... ... C 180
Metals, minerals and alloys ... MT 366
Mineral production in Brazil ... C 635

Magnetite

Iron in Quebec-Labrador ... A 636

Manganese

The mining industry in Malaya A 65
Western Australian output in 1949 ... ... N 85
Rare minerals in Brazil ... ... C 86
India, Pakistan and Burma ... C 87
India ... ... C 180, 584
Western U.S. ... ... C 225, 415
South Africa's changing horizons N 273
Madras mineral wealth to be exploited ... ... A 279
Indian mineral production ... P 293
India and Ceylon ... ... C 318
Portugal... ... ... C 336
Norway ... ... N 388
Russian exports of strategical materials ... ... N 534
Moroccan mineral output ... P 626
Mineral production in Brazil ... C 635
(*See also* weekly report under "Metals, Minerals and Alloys")

Mercury

Industrial expansion in South Africa ... ... A 276
Mineral production in Brazil ... C 635

Mica

Mineral resources of Colombia A 205
Madras mineral wealth to be exploited ... ... A 276
Indian mineral production ... P 293
India ... ... C 504, 584
Minerals, metals and alloys MT 565, 615
Mineral production in Brazil ... C 635

Molybdenum

Metals, minerals and alloys MT 40, 305, 446
Mineral resources of Colombia A 205
Mineral production in Brazil ... C 635

Monazite

Rare minerals in Brazil ... ... C 86
India and Ceylon ... ... C 318

Nickel

The fire refining of copper ... A 36
Canada ... ... C 108, 248
Nickel-aluminium bronze ... R 165
Monel and high nickel alloy *vs.* sulphuric acid ... ... R 228
New Caledonian nickel in 1949 P 293
Stainless steel without nickel... T 304
Norway ... ... C 388
Internationalizing metals and minerals ... ... N 557
The metal shortage ... ... N 583
Mineral production in Brazil ... C 635
(*See also* weekly report under "Metals, Minerals and Alloys")

Niobium
Internationalizing metals and minerals ... ... N 557

Nitrate
Chilean nitrate for Europe ... P 292

Ochre
India ... ... C 180
Madras mineral wealth to be exploited ... ... A 279

Oil
Geologists' report on Ultramar J 20
Sterling oil companies' reports A 39
India, Pakistan and Burma ... C 87
Italy's increasing natural gas output ... ... A 70
Where oil helps coal ... ... T 113
Target for South Rhodesia's oil from coal scheme ... ... O 135
Germany increases oil production ... ... O 137
Pakistan's oil production ... O 137
India ... ... C 180, 390
Mineral resources of Colombia A 205
Progress with Canadian oil pipe lines ... ... P 293
Yugoslavia to make oil well equipment ... ... P 293
India ... ... C 390
Powell Duffryn ... ... ME 455
Oil prospecting on the Continental shelves ... ... T 364
Canada ... ... C 300, 440, 535
Burma and its oil industry ... N 557
Is Tibet's mineral wealth invaders' objective? ... ... N 558
Moroccan mineral output ... P 626
Mineral production in Brazil ... C 635
(*See also* under Oil Jottings O 137, 321, and weekly Mining Share Markets)

Palladium
Platinum metals ... ... MT 69
Russian exports of strategical materials ... ... N 534

Peat
Some recent work on the nature of coal ... ... A 319

Phosphate
Russian exports of strategical materials ... ... N 534
Moroccan mineral output ... P 626
U.S. phosphate rock in 1949 ... P 626

Platinum
Mineral resources of Colombia A 20
Metals, minerals and alloys MT 212, 305, 342, 366, 513, 616
Canada ... ... C 248
Norway ... ... C 388
Treatment of Rustenburg platiniferous ores ... ... A 511
The Ruthenburg process for precious metal recovery ... A 587

Potash
Potash deposits in Yorkshire ... N 386
Russian exports of strategical materials ... ... N 543

Pyrites
Portugal ... ... C 63, 336
Western U.S. ... ... C 132
Wolfram exports in Portugal ... C 202
Norway ... ... C 388
Metals, minerals and alloys ... MT 601
The sulphur problem ... ... N 607
Gold and silver in Japan ... N 608

Quartz
Rising interest in Argentina's mining development ... ... C 160
Mineral resources of Colombia A 205
Mineral production in Brazil ... C 635

Quicksilver
Metals, minerals and alloys MT 92, 254, 284, 446, 513, 541, 565, 590

Radium
Climax Molybdenum to process radium ore ... ... P 264
Mining and development in Katanga ... ... A 361

Rutile
Australia ... ... C 275

Salt
Mineral resources of Colombia A 205
Is Tibet's mineral wealth invaders' objective? ... ... N 558

Sand
Mineral resources of Colombia A 205

Scheelite
The mining industry in Malaya A 65

Selenium
The fire refining of copper ... A 36

Shale Oil
Shale-oil refinery for Brazil ... O 137

Siderite
Iron in Quebec-Labrador ... C 636

Sillimanite
Sillimanite in Montana ... P 293

Silica
Mineral resources of Colombia A 205

Silver
The practice of mineral dressing R 13
Metals, minerals and alloys MT 16, 69, 397, 585
The fire refining of copper ... A 36
Western Australian output in 1949 ... ... N 86
India, Pakistan and Burma ... C 87
Mining conditions in Bolivia ... N 129
Australia ... C 161, 359, 609
Mineral resources of Colombia A 205
Western U.S. ... ... C 225
Canada ... ... C 248
Norway ... ... C 388
The Ruthenburg process for precious metal recovery ... A 587
Gold and silver in Japan ... N 608
Mineral production in Brazil ... C 635

Soapstones
Madras mineral wealth to be exploited ... ... A 279

Soda Ash
Mining in Kenya ... ... N 179

Sphalerite
N. Nigerian mines in 1948 ... A 110

Steatite
Madras mineral wealth to be exploited ... ... A 279

Sulphur
New Swedish pig-iron process T 40
Mineral resources of Colombia C 205
Metals, minerals and alloys ... MT 305, 566, 615
Australia ... ... C 475
The sulphur problem ... ... N 607
Sulphur and metal controls in the U.K. ... ... N 633
Mineral production in Brazil ... C 635

Sylvanite
Potash deposits in Yorkshire ... N 386

Taconite
Great taconite project at Mesabi P 626
Iron in Quebec-Labrador ... A 636

Tantalite
Rare mineral in Brazil ... C 86
N. Nigerian mines in 1948 ... A 109
Internationalizing metals and minerals ... ... N 557

Tellurium
The fire refining of copper ... A 36

Terra Umbra
Cyprus mineral output booms in 1949 ... ... A 480

Thorium
Rare mineral in Brazil ... C 86
India and Ceylon ... ... C 318
Mineral production in Brazil ... C 635

Tin
The practice of mineral dressing R 13
Patino Mines ... ... N 61
Portugal ... C 63, 336
The mining industry in Malaya A 65
Tin mine returns MR 75, 193, 309, 458, 520
Korean war stimulates Japanese industry ... ... N 85
Tin companies' quarterlies MR 101, 463
Tin situation in Far East ... C 108
N. Nigerian mines in 1948 ... A 109
British tinplate manufacture—expansion of electrolytic process ... ... C 111
No Government aid for Cornish mine ... ... N 129
Mining conditions in Bolivia ... N 129
A statement about positions and prospects of the tin industry ... ... R 146
Bisichi Tin Co. (Nigeria) ... J 191
Wolfram exports in Portugal ... C 202
Post devaluation survey ... N 274
Belt conveying at Hong Fatt (Sungei Besi) ... ... A 279
Report of the Tin Research Institute, 1949 ... ... R 283
Tin mining and smelting in the Belgian Congo ... ... A 338
Background for the Geneva Tin Conference ... ... N 357
Australia ... ... C 359, 609
The International Tin Conference ... ... N 385
Cornwall ... ... C 387
Norway ... ... C 388
The Tin Conference at Geneva N 413
"Direction" in the tin industry N 437
The Cameroons, U.K. Trusteeship Report for 1949 ... R 478
Failure of the Geneva Tin Conference ... ... N 504
Life of Malayan tin deposits ... N 533
Russian exports of strategical materials ... ... N 533
Internationalizing metals and minerals ... ... N 557
Burma and its oil industry ... N 557
The Ruthenburg process for precious metal recovery ... A 587
Gold and silver in Japan ... N 608
Mineral production in Brazil ... C 635
Tinplate Handbook ... ... R 639
(*See also* weekly report under "Metals, Minerals and Alloys," Mining Share Markets and the London Metal Market)

Tinplate
(*See* weekly under "Metals, Minerals and Alloys")

Titanium
Titanium and its alloys ... A 12
Mineral production in Brazil ... C 635
Iron in Quebec-Labrador ... A 636
Metals, minerals and alloys ... MT 306

Tungsten
The practice of mineral dressing R 13
Rare minerals in Brazil... ... C 86
Mining conditions in Bolivia ... N 129
Western U.S. ... ... C 132
Australia ... ... C 275
Trusteeship reports on Tanganyika and Togoland ... ... R 394
Internationalizing metals and minerals ... ... N 557
Burma and its oil industry ... N 557
Mineral production in Brazil ... C 635
(*See also* weekly report under "Metals, Minerals and Alloys")

Uranium
South Africa ... ... C 35
Metals, minerals and alloys ... MT 40, 187, 306, 616
India, Pakistan and Burma ... C 87
"amma ray detector ... ... T 113
Western U.S. ... ... C 132
India ... ... C 180
Radio active areas located by plane's survey ... ... T 304
Mining and development in Katanga ... ... A 361
Processing uranium ores ... A 505
Is Tibet's mineral wealth invaders' objective? ... ... N 557
Mineral production in Brazil ... C 635
Fluorimetric uranium determination ... ... T 639

Vanadium
India, Pakistan, Burma ... C 87
Engineering features in N. Rhodesian base metal mining A 391
Metals, minerals and alloys ... MT 446

Vermiculite
South Africa ... ... C 131

Wolfram
Korean invasion threatens wolfram supplies N7
Portugal ... ... C 63, 336
The mining industry in Malaya A 65
Metals, minerals and alloys MT 69, 590
N. Nigerian mines in 1948 ... A 109
Wolfram exports in Portugal ... C 202
Attractive outlook for Beralt Tin ... ... J 307
Unsettled conditions at Mawchi J 451
Re-opening Hemerdon Mine ... N 504
Mineral production in Brazil ... C 635

Zinc
The practice of mineral dressing R 13
Canada C 9, 109, 248, 300 440, 535,
Australia ... C 63, 359, 609
Dangers of the Government policy in relation to base metals ... ... N 33
Korean war stimulates Japanese industry ... ... N 85
N. Nigerian mines in 1948 ... A 109
Western U.S. ... C 132, 225, 415
Irish gold and base metals ... N 159
"Slag fuming" ... ... T 186
Mineral resources of Colombia A 205
Mining and development in Katanga ... ... A 361
Norway ... ... C 388
Spain ... ... C 390
Engineering features in N. Rhodesian base metal mining A 391
Internationalizing metals and minerals ... ... N 557
The metal shortage ... ... N 583
Mineral production in Brazil ... C 635
Gold and silver in Japan ... N 608
(*See also* weekly reports under "Metals, Minerals and Alloys")

Zirconium
Rare mineral in Brazil... ... C 86
Australia ... ... C 275
Mineral production in Brazil ... C 635

Countries

Argentine
Rising interest in Argentina's mining development ... C 160
Argentine's oil and fuel problems ... ... O 321

Australia
Australia C 64, 161, 275, 359, 475, 609
Australian gold mine returns MR 75, 192, 309, 458, 520
Western Australian output in 1949 ... ... N 85
Another Australian locomotive order for U.K. ... ... P 264
Advances in wire rope practice A 441
The world's iron ore resources N 533
Miscellaneous mining progress reports ... ... A 563
(*See also* under weekly Mining Share Markets).

Austria
Mining production in Brazil ... C 635

Bechuanaland
Colonial geology and mineral resources ... ... R 365

Belgium
Belgian diamond trade in June P 94
Russian exports of strategical materials ... ... N 534
Internationalizing metals and minerals ... ... N 557

Belgian Congo
The practice of mineral dressing R 13
The Kilo-Moto gold mines ... A 183
Tin mining and smelting in the Belgian Congo ... ... A 338
Mining and development in Katanga ... ... A 361

Bolivia
Patino mines ... ... N 61
Mining conditions in Bolivia ... N 129
Attractive outlook for Beralt Tin ... ... J 306
Studies of Mexican antimony deposits ... ... N 336
Background for the Geneva Tin Conference ... ... N 357

Brazil
Reported diamond and gold discovery in Brazilian Guiana N 8
Rare mineral in Brazil ... C 86
Brazilian steel production ... P 94
Shale-oil refinery for Brazil ... O 137
Autumn elections as an international influence ... ... N 299
Attractive outlook for Beralt Tin ... ... J 306
Mining production in Brazil ... C 635

British Guiana
Minor gold producers in tropical America ... ... N 107
Colonial geology and mineral resources ... ... R 365
Venezuela's gold and diamonds N 474

KEY TO CODE LETTERS

A	*Articles*
B	*Business Items*
C	*Our Own Correspondent*
CN	*Company Notices*
CS	*Company Shorts*
D	*Dividends*
DR	*Directors' Reports*
J	*Company News and Views*
L	*Correspondence*
M	*Machinery and Equipment*
ME	*Company Meetings*
MM	*Mining Men and Matters*
MR	*Mine Returns*
MT	*Metals, Minerals and Alloys*
N	*Notes and Comments*
O	*Oil Notes*
OB	*Obituaries*
P	*Paragraphs*
PP	*Points from Parliament*
R	*Reviews*
S	*Mining Share Markets*
T	*Technical Briefs*

Mr. G. A. Moorehead ... ... MM 515
British Guiana gold mining, a correction ... ... P 535

Burma

Sterling oil companies' reports A 39
India, Pakistan and Burma ... C 87
Burma and its oil industry ... N 557

Cameroons

The Cameroons, U.K. Trusteeship Report for 1949 ... R 478

Canada

Canada C 9, 108, 248, 300, 440, 535
Canada creates new mining department ... ... N 33
New device to fight silicosis ... T 186
A North American aluminium war ... ... A 162
Drilling and sampling of bituminous sands of Northern Alberta ... ... R 209
Ontario's declining silicosis rate P 293
Progress with Canadian oil pipe lines ... ... P 293
Canada frees the dollar ... N 317
Background for the Geneva Tin Conference ... ... N 357
The Canadian Department of Mines sets up new division ... N 386
Advances in wire rope practice A 441
Canadian gold bonus basis to be revised ... ... N 474
The Canada Yearbook, 1950 ... R 614
The Mining Laws of Canada ... R 614
Hollinger seeks English miners P 626
Outmoded taxation and exiled enterprise ... ... N 633
Iron in Quebec-Labrador ... A 636

Ceylon

India and Ceylon ... ... C 318

Chile

Chilean nitrate for Europe ... P 292
Iron in Quebec-Labrador ... A 636

China

Attractive outlook for Beralt Tin ... ... J 309
The world's iron ore resources N 533

Colombia

Mineral resources of Colombia A 205
Miscellaneous mining progress reports ... ... A 563

Congo

Background for the Geneva Tin Conference ... ... N 357

Cyprus

U.K. electrical experts meet in Cyprus ... ... B 189
Cyprus—a new conference area A 477
The sulphur problem ... ... N 606

Czechoslovakia

Mining production in Brazil ... C 635

Eire

Irish gold and base metals ... N 159
Benbulben Mines to re-open ... N 584

Egypt

Gold cyanidation plant for El Sid gold mine ... ... M 14
The Supreme Council for Mines and Quarries ... ... MM 189
Egyptian iron ore reserves ... P 292
Egypt wants geological experts P 293

Formosa

Gold and silver in Japan ... N 608

France

Guide practique dans les echantillonnages ... ... R 112
Advances in wire rope practice A 441

French Africa

Konakry iron-ore deposits ... A 90
A new iron ore field ... ... N 473

Germany

German diamond cutters boycotted ... ... P 101
Germany increases oil production ... ... O 137
New copper deposits at Saxony P 292
German chemical production freed ... ... P 293
Nazi trust busting ... ... N 318
Advances in wire rope practice A 441
Jahrbuch des Deutschen Bergbaus, Jahrgang, 1950 ... R 444
Mining production in Brazil ... C 635

Great Britain

(All references to Great Britain appear under the appropriate subject headings. Limitations of space prevent detailed itemization here.)

Holland

Advances in wire rope practice A 441
Internationalizing metals and minerals ... ... N 557

India

Indian gold mine returns MR 75, 192, 309, 458, 520
India, Pakistan and Burma ... C 87
Indian irrigation schemes ... P 100
Oil prospecting in Assam ... O 137
India ... ... C 180, 390, 504, 584
Madras mineral wealth to be exploited ... ... A 279
Planning for India's steel industry ... ... P 292
Indian mineral production ... P 293
Stainless steel without nickel... T 304
India and Ceylon ... ... C 318
Geological instability of Assam N 335
Indian coal densities ... ... T 364
Advances in wire rope practice A 441
The Kolar Gold Mines... ... A 450
Miscellaneous mining progress reports ... ... A 563
The Centenary of the Geological Survey of India ... N 633

Indonesia

The mining industry in Malaya A 65
Tin situation in Far East ... C 108
Background for the Geneva Tin Conference ... ... N 357
The Tin Conference at Geneva N 413

Italy

Italy's increasing natural gas output ... ... A 90
Synthetic ammonia from methane gas ... ... P 94
Italy searching for radio-active minerals ... ... P 292
Italian ball bearings production P 293
Uneconomic mining in Sardinia N 437
The world's iron ore resources N 533
The sulphur problem ... ... N 606
Mining production in Brazil ... C 635

Jamaica

Outlook for bauxite in Jamaica N 223
Colonial geology and mineral resources ... ... R 365

Japan

Korean war stimulates Japanese industry ... ... N 85
Internationalizing metals and minerals ... ... N 557
The sulphur problem ... ... N 606
Gold and silver in Japan ... N 607

Java

Tin situation in Far East ... C 108

Kenya

Mining in Kenya ... ... N 178
Kenya coal discovery ... ... P 264

Korea

Korean invasion threatens wolfram supplies... ... ... N 7
Korean war stimulates Japanese industry ... ... N 85
International organization and the mineral industry ... N 335
Gold and silver in Japan ... N 608

Kuwait

Saudi Arabian oilfield now world's largest producer ... O 321

Luxembourg

Russian exports of strategical materials ... ... N 534

Macao

"More realistic" gold price ... N 248

Malaya

The mining industry in Malaya A 65
Malayan tin mine returns MR 75, 101, 192, 309, 458, 520
Tin situation in Far East ... C 108
Some tin results of Anglo-Oriental group ... ... J 118
Belt conveying at Hong Fatt (Sungei Besi) Ltd. ... ... A 280
Dunlop fights synthetic competition ... ... P 293
Background for the Geneva Tin Conference ... ... N 357
Colonial geology and Mineral Resources ... ... R 365
The Tin Conference at Geneva N 413
"Direction" in the tin industry N 437
The geology of mineral resources of the neighbourhood of Chegar Perah and Merapoh, Pahang ... ... R 478
Life of Malayan tin deposits... N 533
(*See also* under Tin)

Mexico

Mexican mining production ... A 9
Studies of Mexican antimony deposits ... ... N 336

Morocco

Moroccan mineral output ... P 626

New Caledonia

New Caledonian nickel in 1949 P 293

Newfoundland

Iron in Quebec-Labrador ... A 636

New Guinea

Australia ... ... C 609

New Zealand

Hot springs as source of power P 293
Miscellaneous mining progress reports ... ... A 536
Opencast coal discovery in New Zealand ... ... P 626

Nigeria

Nigerian tin mine results MR 75, 192, 309, 459, 520
N. Nigerian mines in 1948 ... C 109
Columbium in Norway ... C 110
Colonial geology and mineral resources ... ... R 365
Mr. J. Chinoweth ... ... MM 592

Northern Ireland

Irish gold and base metals ... N 159

Northern Rhodesia

The practice of mineral dressing R 13
Northern Rhodesia's foreign trade expansion ... ... P 71
Explosives factory for Northern Rhodesia proposed ... ... N 300
Engineering features in Northern Rhodesian base metal mining ... ... A 391
Stands London where she did? N 413
New coal discovery in Northern Rhodesia ... ... N 437
Coal supply position in the Rhodesias ... ... N 473
Migration of Rhodesian copper companies ... ... N 534
Board changes in the Rhodesian copper companies ... ... CS 546
Miscellaneous mining progress reports ... ... A 562
Migration of London overseas mining ... ... A 585

Norway

Columbium in Norway ... ... C 110
Norway ... ... C 388
World's heaviest ore crusher for Norway ... ... M 483
The sulphur problem ... ... N 606

Pakistan

India, Pakistan and Burma ... C 87
Attock oil's successful year ... J 96
Pakistan's mining policy ... N 130
Pakistan oil production ... O 137
Oil prospecting in East Pakistan O 321

Persia

Saudi Arabian oilfield now world's biggest producer ... O 321

Poland

Coalmining in Poland ... ... N 608

Portugal

The sulphur problem ... C 53, N 606
Wolfram exports of Portugal ... C 202
Attractive outlook for Beralt Tin ... ... J 307
Portugal... ... ... C 336

Sardinia

Uneconomic mining in Sardinia N 437

Saudi Arabia

Saudi Arabian oilfield now world's largest producer ... O 321

Siam

The mining industry in Malaya A 65
Westinghouse Electric International Co. ... ... B 169
Background for the Geneva Tin Conference ... ... N 357

Sicily

The sulphur problem ... ... N 606

Sierra Leone

Conveyor belt for mining service and Sierra Leone ... M 229
Colonial geology and mineral resources ... ... R 365
A new iron ore field ... ... N 473

South Africa (Rand)

Kaffir outputs ... ... J 45, 146
Rand mine returns ... MR 53, 148, 264, 345, 454, 620
Kaffir share yields and life factor... ... ... J 73
New Power station for Witwatersrand ... ... P 100
Manpower problem on the Rand ... ... N 107
East Rand Consols capital assets J 118
Rand labour and rising power costs ... ... N 180
A review of the Rand June quarterly results ... ... A 181
Rand September quarterlies ... A 507

South Africa (Orange Free State)

Development Council on evolution of the O.F.S. ... ... N 61
Fresh capital for the O.F.S. ... N 247
Progress in the O.F.S. ... ... A 337
The Orange Free State gold mines ... ... R 419
Leases for the Free State gold mines ... ... A 536

South Africa (General)

South Africa ... C 35, 131, 439, 559
South African mineral output for May ... ... P 94
British gold and dollars in U.S. N 107
The South African Financial Year Book ... ... R 112
Shaftsinking in South Africa... T 112
New Anglo-South African gold deal ... ... N 201
"More realistic" gold price ... N 248
South Africa's changing horizons ... ... N 273
Industrial expansion in South Africa ... ... A 276, 311
Gold and the Union's economy N 289
Studies of Mexican antimony deposits ... ... N 336
Gold from the depths ... ... R 365
Mr. Viljoen ... ... MM 486
The world's iron ore resources N 533
(*See also* under weekly Mining Share Markets.)

Southern Rhodesia

Southern Rhodesia ... ... C 34
£11,000,000 needed for Riscom expansion ... ... N 61
Southern Rhodesia, mineral production, May 1950 ... P 94
Southern Rhodesia's declining gold output ... ... N 130
Target for S. Rhodesia's oil from coal scheme ... ... O 137
"Tanks" capital re-organization plan ... ... J 146
Mr. H. T. Barker ... ... MM 287
Coal supply position in the Rhodesias ... ... N 473
Mr. B. Cunningham ... ... MM 515
Miscellaneous mining progress reports ... ... A 563
Beryl production expanding in Southern Rhodesia ... ... P 626
Ferrochrome factory at Gwelo P 643
Mining boom at Mashaba ... P 643
New coal area near Wankie ... P 643

Spain

Spain ... ... C 389
A new iron ore field ... ... N 474
The sulphur problem ... ... N 606

Surinam

Minor gold producers in Tropical America ... ... N 107

Sweden

New Swedish pig-iron process T 40
Swedish tube plant to double output ... ... P 94
Swedish iron and steel developments... ... ... P 292
A new iron ore field ... ... N 473
Iron in Quebec-Labrador ... A 636
New heat-resisting alloys ... T 639

Switzerland

Internationalizing metals and minerals ... ... N 557

Tanganyika

Tanganyika mineral exports, March ... ... P 71
Colonial Development Corporation may exploit Tanganyika's coal ... ... N 86
Tin mining and smelting in the Belgian Congo ... ... A 338
Colonial geology and mineral resources ... ... R 365
Trusteeship reports on Tanganyika and Togoland ... ... R 394
Mr. E. P. Meaton ... ... MM 515

Tibet

Is Tibet's mineral wealth invader's objective?... ... N 558

Togoland

Trusteeship reports on Tanganyika and Togoland ... ... R 394

Trinidad

Sterling oil companies' reports A 39
National mining and Trinidad oil ... ... J 118

Turkey

Turkish iron ore mining ... P 101
Turkish coal-machinery contract for U.K. ... ... B 116

Uganda

Colonial geology and mineral resources ... ... R 365

United States of America

U.S. geological survey water supply paper ... ... N 62
U.S. fluorspar in 1949... ... P 71
Mining in the Klondyke ... J 96
British gold and dollars in U.S. N 107
Western U.S. ... ... C 132, 415
Notable development in underwater oil drilling ... ... M 138
E.C.A. sponsored carbon black plant for Britain ... ... N 159
A North American aluminium war ... ... A 162
Safeguarding U.K.'s gold ... N 202

Europeans to make aluminium scrap study in U.S. ... ... N 202
The Tin Conference at Geneva N 413
Stands London where she did? N 413
Advances in wire rope practice A 441
India ... ... C 504, 584
Russian exports of strategical materials ... ... N 534
Internationalizing metals and minerals ... ... N 557
Roof bolting in the United States... ... ... A 586, 611
The metal shortage ... ... N 583
The sulphur problem ... ... N 606
Great taconite project at Mesabi ... ... P 626
U.S. phosphate rock ... ... P 626
Outmoded taxation and exiled enterprise ... ... N 633
How mining is crippled in U.S.A. N 634
New aluminium dipping process T 639
Coal-burning gas-turbine locos T 639
Iron in Quebec-Labrador ... A 636
Continuous steel casting ... T 639
(*See also* each week under "Metals, Minerals and Alloys")

U.S.S.R.

"More realistic" gold price ... N 248
International organization and the mineral industry ... N 335
The Tin Conference at Geneva N 413
Russian exports of strategical materials ... ... N 534
Coal mining in Poland ... N 608

Venezuela

Geologists' report on Ultramar J 20
Sterling oil companies' reports A 39
Minor gold producers in tropical America ... ... N 107
A steel industry for Venezuela N 180
Saudi Arabian oilfield now world's biggest producer ... O 321
Steel plant for Venezuela ... N 336
Venezuela's gold and diamonds N 474
Iron in Quebec-Labrador ... A 636

West Africa

West African gold mine returns MR 75, 192, 309, 458, 520
A new iron ore field ... ... N 473
Miscellaneous mining progress reports ... ... A 563

Yugoslavia

Yugoslavia copper mining developments ... ... A 133
Mineral development in Yugoslavia ... ... P 293
Yugoslavia to make oil well equipment ... ... P 293
Mining production in Brazil ... C 635
Better results from Trepca ... CS 640

Men, Methods and Machines

Air Survey

An amphibian for the mining industry ... ... M 210
Radioactive areas located by planes' survey ... ... T 304

Air Transport

An amphibian for the mining industry ... ... M 210

Atomic Energy

India and Ceylon ... ... C 319
A new atomic research tool ... M 396
Processing uranium ores ... A 505
Fluorimetric uranium determination ... ... T 639

Coal Technology

Where oil helps coal ... ... *T 113*
Trends in mechanical mining and preparations of coal for steam generation ... ... A 226
Handbook on coal sampling ... R 228
Outlook for underground gasification of coal ... ... T 304
Some recent work on the nature of coal ... ... A 319
Smoke prevention ... ... T 364
Underground gasification of coal in England ... ... M 483
Coal recovery by flotation fines T 540
Coal-burning gas-turbine locos T 639

Compressors

Climax compressors ... ... M 91
An underground air receiver ... T 113
Mobile compressor utility unit M 210

Diesel Engines

New combustion head for oil burners ... ... M 14
South Africa ... ... C 35
Hunslet Diesel locomotives ... M 68
Diesel electric shunter in steel works service... ... M 512
Locomotive for metalliferous mines ... ... M 613

Drilling

Southern Rhodesia ... ... C 34
Notable development in underwater oil drilling ... ... M 138
Dust control in mine roof drilling T 166
Progress in rock drilling in U.S.A. ... ... M 229
John Bedford introduces the Craig bit ... ... M 482
British standards for pneumatic drills ... ... T 540

Economics

Hoffman's international business exchange scheme ... ... N 8
Dangers of the Government policy in relation to base metals ... ... N 33
£11,000,000 needed for Riscom expansion ... ... N 61
Northern Rhodesia's foreign trade expansion ... ... P 71
Kaffir share yield and life factor J 73
Korean war stimulates Japanese industry ... ... N 85
Canada ... ... C 168
No Government aid for Cornish mines ... ... N 128
Mining conditions in Bolivia ... N 128
South Africa ... ... C 131
Western U.S. ... ... N 132
Mining in Kenya ... ... N 179
South Africa's changing horizons N 273
Post devaluation survey ... N 274
Canada frees the dollar ... N 317
Nazi trust busting ... ... N 318
International organization and the mineral industry ... N 335
Portugal... ... ... C 336
Australia ... ... C 359, 475
Mining and development in Katanga ... ... A 361
Cornwall... ... ... C 387
Norway ... ... C 388
India ... ... C 390, 584
Stands London where she did? N 413
Public supervision of the nationalized industries ... N 438
Coal supply position in the Rhodesias ... ... N 473
Russian exports of strategical materials ... ... N 533
Internationalizing metals and minerals ... ... N 557
The metal shortage ... ... N 583
Migration of overseas mining companies ... ... A 585
Sulphur and metal controls in the U.K. ... ... N 633
Outmoded taxation and exiled enterprise ... ... N 633
How mining is crippled in the U.S.A. ... ... N 634
United Nations Scientific Conference on the Conservation and Utilization of Resources —Vol. 1, Plenary Meetings ... R 639

Electrical Equipment

Weirton's new electrolytic tin plating line ... ... T 40
Brush flameproof induction motors ... ... M 252
Claw-type cable cleats... ... M 252
Madras mineral wealth to be exploited ... ... A 279
A new type universal B.S. plug M 340
The use of rectifiers in coal mining ... ... T 540
Hewittic battery chargers ... M 589

Explosives

Explosives factory for Northern Rhodesia proposed ... ... N 308
Exploders for simultaneous firing of shots ... ... R 444
Progress in blasting procedure A 560
Use of explosives in coal mines R 562

Geology and Prospecting

Canada ... ... C 9
Gamma ray detector ... T 113
The Geiger Muller counter ... R 140
India ... ... C 180
Drilling and sampling of bituminous sands of Northern Alberta ... ... R 209
Some mineral investigations in South Eastern Alaska ... N 336
International conference on rock pressure and support of windings ... ... A 249
Geological instability of Assam N 336
Tin mining and smelting in the Belgian Congo ... ... A 338
Oil prospecting on the Continental Shelves ... ... T 364
The geology and mineral resources of the neighbourhood of Chegar Perah and Merapoh, Pahang ... ... R 478
Subsurface geological methods A 509
Iron in Quebec-Labrador ... A 636

Haulage and Hoisting

Dowty's hydraulic tub controller... ... ... M 91
Know your ropes ... ... A 136
Loco haulage at Littleton ... M 210
Conference on wire ropes in mines ... ... A 303
Advances in wire rope practice A 440
Diesel-electric shunter in steel work service ... ... M 512

Health, Safety and Welfare

Dust control in mine roof drilling T 166
Carbon monoxide ... ... T 166
News from Scotland ... ... A 185
New device to fight silicosis ... T 186
New voice powered maskfone M 253
Ontario's declining silicosis rate P 292
Air conditioning in mines ... T 304
Minister of Fuel and Power ... B 346
Dust filter ... ... T 364
Cornwall ... ... C 389
The economics and application of the hydraulic prop ... A 416
Advances in wire rope practice A 440
Dunlop's new safety boot for miners ... ... M 483
Progress in blasting procedure A 560
Ministry of Fuel award dust control certificates ... ... M 564
Roof bolting in the U.S. A 586, 611

Labour

Canada ... ... C 9, 300
Development council on evolution of the O.F.S. ... ... N 61
Australia ... ... C 83, 475
Southern Rhodesia ... ... C 85
Manpower problem on the Rand N 107
Southern Rhodesia's declining gold output ... ... N 130
South Africa ... ... C 131
Rand labour and rising power costs ... ... N 180
Industrial expansion in South Africa ... ... A 301
Mining and development in Katanga ... ... A 361
Britain's national coal plan ... N 503
The coal crisis ... ... N 583
Hollinger seeks English miners P 626

Lighting

South Africa ... ... C 35

Mechanical Handling

British Hendrix buckets available in September ... ... M 14
Coal production using A.C. power ... ... T 40
The mining industry in Malaya A 65
The adequate continuous conveyor weigher ... ... M 68
The B.J-D type "K" self-cleaning tail end ... ... M 91
The Mavor and Coulson Samson stripper ... ... N 160
The M. and C. stripper ... ... A 163
News from Scotland ... ... A 185
Conveyor belt for mining service and Sierra Leone ... ... M 229
Some longwall coal performance figures... ... ... M 253
Belt conveying at Hong Fatt (Sungei Besi) Ltd. ... ... A 280
New Vickers tractor V.R. 180 M 280
New continuous mining machines M 280
Marion type 43-M machine ... T 340
Bray's new ore cubic yard hydraloader ... ... M 483
Belt preservation ... ... R 444
Euclid trucks at Mount Lyell ... M 589
Giant excavator for Scottish coal site ... ... M 589
Unique conveyor system aids dock construction ... ... M 589

Metallurgy

Titanium and its alloys ... ... A 10
The fire refining of copper A 36, 66, 88
New bronze alloy ... ... T 40
New Swedish pig-iron process... T 40
British tinplate manufacture—expansion of electrolytic process ... ... C 111
New liquid lead electrode furnace ... ... T 186
"Slag fuming" ... ... T 186
A separator for the laboratory M 229
New U.S. metal stripper ... M 253
Stainless steel without nickel... T 304
Oxygen in steel making ... T 364
Advances in wire rope practice A 443
Engineering features in N. Rhodesian base metal mining A 391
The Commonwealth's largest aluminium rolling mill ... A 749
Treatment of Rustenburg Platiniferous ores ... ... A 511
A new Oertling assay balance... M 564
The Ruthenburg process for precious metal recovery ... A 587
Golden Cycles' modern mill ... A 610
New sulphide ore furnace ... M 613
New heat resisting alloys ... T 639
Continuous steel casting ... T 639
New aluminium dipping process T 639

Mining and Extraction

Shaft sinking in South Africa ... T 113
Modernization of Scotland's oldest barytes mine ... ... A 134
Western U.S. ... ... C 132
Iron-ore resources and opencast operations in the Midland orefield ... ... A 206
A machine for reconditioning steel roof supports ... ... M 211
International conference on rock pressure and support of windings ... ... A 249
New continuous mining machines M 280
Tin mining and smelting in the Belgian Congo ... ... A 338
Engineering features in Northern Rhodesian base metal mining A 391
Machinery and equipment at Nanwa Gold Mines ... ... M 394
The economics and application of the hydraulic prop ... A 417
Experimental loading without drilling and shooting ... M 418
Exploders for simultaneous firing of shots ... ... R 444
A truck for the mining and quarrying industry ... ... M 445
The recovery of diamonds at Consolidated Diamond Mines of British West Africa ... A 538
Progress in blasting procedure A 560
Use of explosives in coal mines R 560
Roof bolting in the U.S. A 586, 611
Iron in Quebec-Labrador ... A 636

Mine Telephones

A.T.M's new magneto mining telephone ... ... M 613

Ore Treatment

The practice of mineral dressing R 13
Gold cyanidation plant for El Sid Gold Mine ... ... M 14
Davies model 47 magnetic separator ... ... M 68
Cyclone separators ... ... T 166
Sink-float at the Sullivan Concentrator ... ... A 203
Western U.S. ... ... C 225
Huntington, Heberlein sink-float process ... ... M 279
Engineering features in N. Rhodesian base metal mining A 391
Electrostatic separation of diamonds ... ... A 476
World's heaviest ore crusher in Norway ... ... M 483
Processing uranium ores ... A 505
Treatment of Rustenburg platiniferous ores ... ... A 511
Golden Cycles' modern mill ... A 610

Power Plants

Canada ... ... C 109
Mining and development in Katanga ... ... A 361
Power supply for stripping machines ... ... M 445

Pumping and Drainage

Sigmund pumps at Stanlow ... M 14
Cornwall... ... ... C 387

Statistics and General Information

Mexican mining production ... A 9
Mining Year Book, 1950 ... R 38
The Scope Year Book ... ... R 38
Metal statistics, 1950 ... ... R 38
Tanganyika mineral exports, March... ... ... P 71
U.S. fluorspar in 1949 ... ... P 71
S.A. mineral output, May ... P 94
Belgian diamond trade in June P 94
Southern Rhodesia mineral production, May 1950 ... P 94
The S.A. Financial Year Book R 112
Colliery Year Book & Coal Trades Directory, 1950 ... R 112
Minerals Year Book, 1947 ... R 112
Quinn's Metal Handbook and Statistics ... ... R 112
Year Book of the American Bureau of Metal Statistics ... R 209
List of mines in Great Britain and the Isle of Man ... ... R 209
The Directory of Directors, 1950 R 283
The Stock Exchange Official Year Book, 1950 ... ... R 444
Register of defunct and other companies ... ... R 444
Minerals Year Book, 1948 ... R 614
The Canada Year Book, 1950 ... R 614
The mining laws of Canada ... R 614
South African Mining and Engineering Year Book ... R 614
Rhodesian Mining Review Year Book ... ... R 614

Companies and other Public Bodies

(For Rand gold mine returns, see MR 53, 148, 264, 345, 454, 620. For other mining company monthly production figures, see "Mine Returns"—MR 75, 192, 309, 458, 529. For quarterly figures, see MR 101, 463. For share prices see weekly "Mining Share Markets" and for dividend payments, see list published weekly.)

A

Abbeytown Mining Co. ... CS 453
Aberdare Cables ... ... A 276
Aberfoyle Tin ... ... C 359
Adequate Weighers ... ... M 68
Advisory Council on Scientific Policy ... ... A 110
African & European Investment Co. MM 256, CS 308, J 325, C 337, J 424
African Explosives & Chemical Industries ... ... C 35, A 276
African Metals Corp. ... ... A 276
Air Reduction Co., Inc. ... M 483
Aiton & Co. ... ... A 276
Akers Styckebruk ... ... P 94
Algoma Steel Corp. ... C 535, A 636
Alltools ... ... B 189
Aluminum Co. of America ... A 162
Aluminum Co. of Canada ... A 162, C 300, A 479
Aluminium Corp. ... ... MM 189
Aluminium Development Assoc. ... ... R 140, 444
Aluminium Laboratories ... R 365
Aluminium Laboratories of Montreal ... ... A 65, N 223
Aluminium Ltd. ... ... N 224
Aluminium Wire & Cable Co.... B 169
Amalgamated Anthracite Collieries MM 16, J 146, ME 172
Amalgamated Banket Areas ... MM 169, J 191, A 215, ME 236, J 545, A 563
Amalgamated Metal Corp. ... CS 147
Amalgamated Tin Mines of Nigeria ... J 594, ME 626
American Academy of Arts & Sciences ... ... T 639
American Bureau of Metal Statistics ... ... R 208
American Metal Co. ... ... MM 488
American Metal Market ... ... R 38
American Mining Congress Metal Mining Convention MM 186, M 445, A 505, 560
American Optical Co. U.S.A.... T 364
American Salem Engineering Corp. ... ... N 180
American Smelting & Refining Co. S 19, C 132, T 186, C 225, 415
American Zinc, Lead & Smelting Co. ... ... C 225
Ampat Tin Dredging ... ... MM 43
Anaconda British Guyana Gold Mines ... ... N 107
Anglo-Alpha Cement ... ... J 569
Anglo American Corp. Group of Collieries ... CN 462, D 626
Anglo American Corp. Group of Companies C 35, J 45, CN 52, S 72, J 73, S 214, CS 148, A 181, N 247, C 337, J 343, J 372, N 413, S 422, J 424, ME 429, CN 429, MM 488, CN 493, CN 524, N 534, J 545, C 559, J 569, MR 620, D 642
Anglo-Austral Mines ... ... A 134
Anglo-Burma Tin Co. ... CS 21, 308, 547, ME 575
Anglo-Ecuadorian Oilfields ... J 594, ME 586
Anglo French Exploration Co. MM 515
Anglo Iranian Oil Co. ... S 19, J 20, ME 22, A 39, S 44, 72, MM 116, S 171, 287, 544
Anglo-Rand Mining & Financial Corp. ... ... ME 236
Anglo Saxon Petroleum Co. ... MM 18
Anglo-Sicilian Sulphur Co. ... N 607
Anglo Transvaal Consolidated Investment Co. J 73, A 181, J 401, DR 461, J 569, MR 620, CS 640
Argentine Industrial Credit Bank ... ... C 160
Anglo Oriental (Malaya) ... MM 515
A.O. Nigeria ... ... R 478
Apex Trinidad Oilfields ... A 39, J 545
Appleby-Frodingham Steel Co. ... T 166
Aramayo Mines in Bolivia MM 71, N 129
Ariston Gold Mines ... A 215, ME 236, J 545, A 563
Arma Corp. ... ... T 40
Armco Steel Corp. ... ... P 626
Ashanti Goldfields Corp. ... A 215, J 545, A 563, S 568, 593
Ashanti-Obuasi Reefs MM 456, B 456
Asnazu Mines ... ... A 563
Associated Drilling & Supply Co. (Overseas) ... B 456, 486
Associated Electrical Industries ... A 276
Associated Lead Manufacturers MM 189
Associated Manganese Mines of S. Africa ... ... S 44, 257, J 569
Association of Mining, Electrical & Mechanical Engineers ... B 43
Atomic Energy Control Commission ... ... C 132, T 639
Attock Oil Co. ... ... S 19, J 96
Australian Bureau of Mineral Resources ... ... R 628
Australian Iron & Steel ... C 161
Automatic Telephone & Electric Co. ... ... B 456, M 613
Ayer Hitam Tin Dredging Co.... A 65, CS 571

B

Babcock & Wilcox Co.... T 186, 639
Bank of Australasia ... ... B 617
Bank of Scotland ... ... B 486
Barama Goldmining Co. ... ... N 107
Andrew Barclay Sons & Co. ... M 512
Barclays Bank ... B 286, 456, 486
Barclay's Bank (D.C. & O.) ... N 633
Basrah Petroleum Co. ... ... A 39
Bedford Engineering Works (S. Africa) ... ... A 276
John Bedford & Sons ... ... M 482
R. Beerman Publishing Pty. ... R 112
Belmos Products ... ... B 486
Benbulben Barytes ... ... N 584
Beralt Tin & Wolfram... ... S 44, 72, 171, C 202, S 257, J 307
Bergiaget Research Institute... T 40
Pal Bergsoe & Son ... ... T 40
Bethlehem Steel Corp.... C 635, A 636
Bibiani (1927) ... ... R 13, MM 71, CN 76, A 215, A 563
Bibliography of Industrial Diamond Applications ... ... T 113
B.I.S.C. (Ore) ... ... N 473
The Billiton Co. ... C 108, CS 308
Bisichi Tin Co. (Nigeria) ... J 191, ME 216, B 346
Bituminous Coal Research Inc. M 283
Blackwater Mines ... ... CS 260, A 563
Bloemfontein Investment Corp. ... MM 791, 543
Blyvooruitzicht Gold Mining Co. ... J 146, A 181, J 423, CN 450, C 439, A 507, J 517, ME 521, J 545, C 559, J 569, MR 620, J 640
Board of British Controlled Oilfields ... ... MM 116
Board of Metal Industries ... MM 840
Bogala Corp. ... ... C 883
Aftb Bolden ... ... CS 21
Bolsover Co. ... ... MM 617
Borracha ... ... C 202
Boulder Perseverance ... J 233, ME 260, J 370
Brakpan Mines ... ... J 146, D 173, A 181, A 276, A 507, MR 620, J 640
W. E. Bray & Co. ... M 418, B 456, M 483
Bremang Gold Dredging Co. S 144, I 171, 191, A 215, ME 216, ME 236, S 257, A 563
British Aluminium Co.... A 65, A 456
British Association for the Advancement of Science ... MM 169
British Borneo Petroleum ... ... A 39
British Burmah Petroleum ... J 569
British Coal Utilization Research Assoc. ... ... A 319
British Copper Refineries ... A 88
British Electrical and Allied Manufacturers' Assoc. ... A 477
British Engineers Small Tools Equipment Co. ... ... A 276
British Guiana Consolidated Goldfields N 87, 107, MM 169, 617
British Institute of Management ... ... N 438
British Insulated Callender's Cables... ... ... A 88, M 253
British Iron and Steel Federation ... ... N 607
British Iron and Steel Research Assoc. ... ... A 441
British Jeffery-Diamond M 89, B 116, M 253, 340
British Malayan Petroleum Co. A 39
British Malayan Tin Syndicate C 387, CS 596
British Non-Ferrous Metals Federation ... N 33, MM 43, N 583
British Overseas Mining Assoc. N 413, 633
British S. Africa Co. ME 24, MM 515, 592
British Standards Institution B 43, R 228, B 286, 456, M 483, T 540, M 566
British Tanker Co. ... ... B 454
British Thomson-Houston ... B 189, A 276, M 340, B 456, 486
British Timken ... ... B 456
British Trade Promotion Centre P 264
J. Brockhouse & Co. ... MM 189, B 456
Broken Hill Proprietary Co. ... MM 18, C 63, 161 CS 192
Broken Hill South C 359, A 441, C 475
David Brown & Sons ... ... A 276
Brush Electrical Engineering Co MM 94, B 189, M 252, A 276
Bryce-Fuel Injection ... ... M 138
Bullion Monarch Mining Co. ... C 133
Bulolo Gold Dredging ... ... C 609
Bunker & Sullivan Mine T 186, C 415
Burmah Oil Co. S 19, A 39, ME 49, S 72, O 137
Bushtick Mines A 215, CS 519, A 563

C

Cabot Carbon Co. ... ... N 159
Godfrey L. Cabot Inc.... ... N 159
Calumet Mining Co. ... ... C 132, 225
Cam and Motor Gold Mining Co. (1919) A 215, CS 453, A 563, S 618
Cameroons Mining Corp. ... R 478
Canadian Department of Mines N 386, R 614
Canadian Eagle (Oil Co.) A 39, S 343
Canadian Institute of Mining and Metallurgy ... ... P 626
Canadian Pacific Railway ... S 287
Cape Provinces Manganese ... S 190
Carboloy Co. ... ... M 229
Sir John Cass College ... MM 43, 617
Castle-an-Dinas ... ... C 387
Caterpillar Tractor Co. ... CS 148
Cementation Co. ... J 490, ME 524
Central African Gold Mines ... MM 69
Central Eureka... ... C 132, 225
Central Mining (Rand Mines Group) C 35, B 43, J 45, CN 52, J 146, A 181, CN 346, J 401, 423, CS 453, MR 620, ME 625
Central Mining Free State Areas J 73, N 247, CS 518
Central Norseman Gold Corp. C 63, A 215, C 275, J 288, ME 625, C 475
Central Provinces Manganese Co. S 214
Central S. African Regional Development Assoc. ... ... C 439
Central Victoria Dredging Co. C 275, J 325, C 475
Central Wassau Gold Mines ... CS 619
Champion Reef Gold Mines ... CS 147, A 441, 450, ME 572
Chemical Engineering Group of the Society of Chemical Industry ... ... MM 169
Chemical Metallurgical and Mining Society of S. Africa... T 113, M 445, A 476, MM 515
Chendai Consolidated ... ... CS 640
Chenderiang Tin Dredging ... J 426
City Deep J 45, 146, A 181, 507, J 569, S 568, MR 620, J 640
Climax and Minerals Engineering Co. ... ... C 132
Climax Molybdenum Co. C 132, P 264
Climax Rock Drill & Engineering Works M 89, OB 256, R 321, M 564
Clutha River Gold Dredging ... A 215, CS 519, A 563
Coalite and Chemical Products J 20
Colonial Development Corp. ... N 87, MM 169, CS 147
Colonial Office ... ... N 179, R 394
Colonial Welfare and Development Schemes ... ... MM 429
Colony's Development Coordination Commission ... O 137
Colorado School of Mines R 394, A 509
Commer Cars ... ... M 444
Commercial Bank of Australia B 43, 456, 617
Companhia Geral de Minas ... C 635
Companhia Meridional de Minero ... ... C 635
Companhia Vale do Rio Doce C 635
Conference on Wire Ropes in Mines A 136, MM 256, A 301, 441
Consolidated African Selection Trust S 487, ME 495, J 545, MM 592, S 592
Consolidated Coal Co. ... ... M 418
Consolidated Coppermines Corp. C 415
Consolidated Diamond Mines of S.W. Africa ... A 476, 538, S 618
Consolidated Goldfields of South Africa... J 545, ME 622, N 633
Consolidated Main Reef Mines & Estates J 146, A 181, J 324, A 507, S 516, ME 548, J 569, MR 620, T 640
Consolidated Mines Selection Co. CS 619
Consolidated Mining and Investment Co. ... ... N 179
Consolidated Mining and Smelting Co. ... ... A 203
Consolidated Murchison (Transvaal) Goldfields & Development Co. ... ... C 35, J 569
Consolidated Pneumatic Tool Co. ... ... MM 94
Consolidated Rand Investment B 346, CS 571
Consolidated Tin Mines of Burma CS 510
Consolidated Tin Smelters J 45, ME 77
Conveyor Equipment Manufacturers' Assoc. ... ... T 186
Cooke and Ferguson ... ... B 543
Corderoy Mines ... ... N 85
Cornish Institute of Engineers MM 429, 575
Cornish Mining Development Assoc.... ... ... C 388
Coronado Copper and Zinc Co. C 415
Coventry Gauge and Brooke Tool (S.A.) (Pty.) ... ... A 276
Craellius (East Africa) Drilling Co. N 86
Creole Petroleum Corp. ... ... N 108
Croesus Proprietary Treatment Co. ... ... N 191, 370
Crompton Parkinson M 512, MM 543
Crossley Premier ... ... M 395
Crown Mines T 113, A 181, A 507, J 569, 640
Cuyuni Goldfields ... N 107, P 535

D

Daggafontein Mines S 72, 117, J 146, A 181, A 507, J 569, MR 620
Daly Mining Co. ... ... C 415
Damador Valley Corp.... ... P 101
D'Arey Exploration Co. A 109, R 478
Davidson Brown (Pty.) ... A 276
Davies Magnet Works... ... M 68
De Beers Consolidated Mines C 35, S 44, CS 52, N 247, B 346, J 372, MM 456, 486
Department of Scientific and Industrial Research... T 166, R 365
Diamond Corp.... ... ... J 545
Diamond Research Laboratory, Johannesburg ... ... A 476
W. B. Dick & Co. ... ... A 39
Diesel Oil Burner Corp. ... ... M 14
Distington Engineering Co. ... B 543
Domestic Manganese and Developments Co. ... ... C 225
Dominion Bureau of Statistics (Canada) ... ... R 614
Dominion Reefs (Klerksdorp) ME 621
Doornfontein Mines J 451, A 507, C 559, S 516, J 640
Dorman Long & Co. ... A 276, N 607
Dowty Mining Equipment ... A 416
Duchen Mine Development ... MM 288
Dundas Gold ... ... C 64
E.I. Du Pont de Nemours ... C 86
Dunlop Rubber Co. P 293, B 456, M 483, CS 490, M 613
Durban Roodepoort Deep J 113, 146, A 181, A 507, J 569, 640
Dutch Geological and Mining Society ... ... A 249

E

East Champ d'Or Gold Mining Co. ... ... A 181, 507
East Daggafontein Mines J 45, A 181, 507, J 569
East Geduld Mines S 72, J 147, A 181, 507, J 569, MR 620
East Rand Gold, Coal and Estate ... ... CS 453, 490
East Rand Consolidated J 118, ME 236
East Rand Proprietary J 147, A 181, CS 192, M 340, J 569, 640
Eastern Transvaal Consolidated Mines ... ... CS 640
Economic Commission of Europe N 473
Economic Co-operation Administration ... N 8, 159, 202, 223, 274
Electricity Supply Commission P 101
Electric Power Engineering ... M 340
Electrolytic Zinc Co. ... ... C 609
El Oro Mining & Exploration Co. MM 116, 309, J 370, ME 428
Emperor Gold Mines ... CS 172, C 609
English Electric Co. ... B 189, A 477
Ente Nazionale Metano ... ... A 90
Enthone Inc. ... ... M 253
Enugu Colliery Board... ... MM 169
Escom ... ... N 273
Esperanza Copper and Sulphur CS 453
Alfred Ewing ... ... OB 256
Ex Lands Nigeria MM 18, S 19, J 45, ME 100, J 118
Exploration Co. ... J 370, CS 640

F

Fabulosa Mines Consolidated ... CS 308, MM 515
Falcon Mines A 215, MM 309, 543, A 563
Falconbridge Nickel Mines ... C 109

KEY TO CODE LETTERS

A	*Articles*
B	*Business Items*
C	*Our Own Correspondent*
CN	*Company Notices*
CS	*Company Shorts*
D	*Dividends*
DR	*Directors' Reports*
J	*Company News and Views*
L	*Correspondence*
M	*Machinery and Equipment*
ME	*Company Meetings*
MM	*Mining Men and Matters*
MR	*Mine Returns*
MT	*Metals, Minerals and Alloys*
N	*Notes and Comments*
O	*Oil Notes*
OB	*Obituaries*
P	*Paragraphs*
PP	*Points from Parliament*
R	*Reviews*
S	*Mining Share Markets*
T	*Trade and Technical Notes*

Federation of British Industries MM 515, B 617
Finlay Conveyor Co. ... ... M 210
First Electric Corp. of South Africa ... ... A 276
Thos. Firth & John Brown ... B 456
Dr. Sidney Walter Fisher ... MM 43
Flather Bright Steels (Pty) ... A 276
Follsain-Wycliffe Foundries ... M 589
Fifth Empire Mining and Metallurgical Congress ... MM 593
Fourth Plenary World Power Congress ... ... A 226
H. H. Fraser and Associates (Rhodesia) ... ... MM 286
Fraser & Chalmers M14, B 346, M 395, B 456, 486
Freddies North Co. S 190, 214, N 247, CS 290, J 372, C 439, A 507, 536, J 640
Freddies, South Co. S 190, A 247, CS 290, J 372, C 439, A 507, A 536, J 640
Free State Development & Investment Corp. ... CS 97, J 372
Free State Geduld Mines MM 18, S 117, A 181, J 325, C 337, A 507, A 536, J 640
Free State Gold Areas... A 181, MM 543
Fresnillo Co. ... ... C 133, A 215
Frontino Gold Mines ... ... MM 18
Frobisher Mining Corp. N 179, 474
Fuel, London, 1950 ... ... T 364

G

J. C. Garland ... ... OB 406
Gauge & Tool Makers' Assoc. B 116
Geduld Proprietary Mines J 45, A 507, J 589, MR 620
Geevor Tin Mines J 307, ME 345, C 387, S 544
Geita Gold Mining Co.... J 171, 372
General Electric Co. M14, B 189, 456, A 477, MM 515, T 540
General Exploration, O.F.S. A 507, J 640
General Mining Corp. J 73, B 116, MR 620
General Mining & Finance Corp. ... ... J 45, 146, 589
General Power Plant Corp. ... T 364
General Sandur Mining ... ... MM 94
Geological Survey Dept., Malaya T 478
Geological Survey of India A 279, C 318, 584, N 634
German Board of Steel Trustees N 318
Glasgow Iron & Steel Co. ... A 185
Globe & Phoenix Gold Mines... N 473
Glueckauf, G.m.b.H. ... ... R 444
Glynn's Lydenburg J 45, 427, A 507
Gold & Base Metal Mines of Nigeria J 74, A 109, J 118 ME 120,
Gold Coast Banket Areas ... A 215
Gold Coast Chamber of Mines... MM 429
Gold Coast Main Reef ME 22, J 191, A 215, ME 236, A 563
Gold Coast Selection Trust S 144, J 171, 191, ME 236
Golden Cycle Corp. C 132, 415, A 611
Gold Exploration & Finance Co. of Australia ... J 288, N 413
Gold Fields American ... ... J 545
Goldfields Australian Development Co. ... J 288, ME 326, J 545
Goldfields Rhodesian Development Co. MM 286, J 489, ME 522, J545
Gold Mines of Australia C 161, 275
Gold Mines of Kalgoorlie S 144, A 215, J 233, C 275, J 288, ME 325, ME 326, S 568, CS 571, C 609
Gold Producers' Committee ... N 180
Goodyear Tyre & Rubber Co. ... MM 71, M 229
Gopeng Consolidated ... J 258, ME 309
Government Gold Mining Areas A 181, A 507, J 569
Great Fingall Explorations ... C 475
Great Boulder Proprietary Gold Mines ... ... MM 429, A 563
Great Western Consolidated N.L. ... CS 192, A 215, C 275, 609
Griqualand West Diamond Mining ... B 345, MM 515
Grootvlei Prop. Mines J 45, A 181, A 507, J 569, MR 620
Guayana Mines... N 107, CS 290, N 474

H

Hackbridge & Hewittic Electric M 589
Hampton Gold Mining Areas ... CS 618
Hardinge & Co., Inc. ... ... M 340
Harmony Gold Mining Co. S 214, N 247, MM 256, 286, CS 290, C 337, J 344, 401, 453, CS 490, A 536, J 545, C 559, S 568, J 569, S 592
Harrisons & Crosfield ... J 618, ME 624
Head Wrightson & Co., S.A. (Pty.) ... ... A 276
Hecla Mining Co. ... C 133, 225
H. E. Proprietary J 73, ME 76, B 116
Henderson's Transvaal Estates MM 286, J 289, ME 326
Hewitt-Robins Inc. ... ... M 418
High Speed Steel Alloys Mining Co. ... ... CS 97
Hilger & Watts... ... ... B 43
H.M. Stationery Office R 209, 365 ,444, 478, 562, 614
A. F. Holden Co. ... ... T 186
Holfontein (T.C.L.) Gold Mining CS 453, C 559
Hollinger Consolidated Gold Mines ... ... P 628, A 636
Holman Bros. ... ... A 276
Homestake Mining Co. ... A 441
Hondura & Rossario Mining Co. N 107
Howe Sound Mining Co. ... T 540
Hudson Bay Mining & Smelting Co. ... ... S 287 C 300,
Hunslet Africa (Pty.) ... ... C 35
Hunslet Engine Co. M 68, B 189, 543, M 613
Huntington Heberlein Co. ... M 283

I

Idris Hydraulic Tin ... J 45, ME 100
I. G. Farben Industrie... ... N 318
Imperial Chemical Industries ... CS 260, A 276, N 386, B 456, A 477, B 617
Imperial Institute ... ... R 365
Imperial Oil ... ... S 287
Incorporated Society of British Advertisers ... ... B 116
Indian Copper Corp. S 190 J 233, ME 263, A 563, MM 593,
Indian Standards Institution... C 180
Industrial Development Corp. N 273
Industrial Explorations ... J 372
Indistributors ... ... J 546
Ingersoll Rand Co. ... ... M 229
Inland Steel Co. ... ... A 636
Institute of Metals ... ... MM 116
Institution of Chemical Engineers ... ... MM 486
Institution of Mechanical Engineers ... ... C 441
Institution of Mining Engineers A 303, 441, MM 575
Institution of Mining and Metallurgy A 66, MM 71, P 71, A 88, A 136, 303, MM 406, A 441, MM 456, 592
Instituto de Geologia de Mexico N 336
International Committee for the Study of Clays ... ... MM 43
Sixth International Conference of Directors of Mine Research A 586
Sixth International Conference of the Directors of Safety in Mines ... ... MM 43
International Conference on Rock Pressure and Support in the Workings A 249, MM 256, 406
International Labour Office ... MM 116, N 567
International Metal Congress... MM 43
International Monetary Fund... N 317
International Nickel Co. of Canada A 88, N 108, S 171, C 248, S 287, C 535, A 563, S 568
Third International Pneumoconiosis Conference ... ... MM 116
International Smelting & Refining Co. (Anaconda) ... ... C 132
International Tin Conference N 357, 385
International Tin Study Group R 140, N 357, N 413, 540
Investigations and Management MM 515
Investors' Chronicle ... ... M 418
Ipoh Tin Dredging ... ... J 426
Iraq Petroleum Co. ... ... A 39
Iron Ore Co. ... ... C 300
Iron & Steel Corp. of Great Britain MM 286, B 346, N 357, 438
Iron & Steel Corp. of South Africa ... ... A 276
Iron and Steel Institute A 206, MM 456 MM 593 617

J

Jantar Nigeria Co. ... J 570, ME 624
Jeannette Gold Mine S 343, N 343, C 439, J 536
Jeffrey Manufacturing Co. ... M 282
Jelapang Tin Dredging ... ... A 65
Jamaica Bauxite Co. ... ... N 224
Johannesburg Consolidated Investment Co. MM 18, J 73, MM 116, S 117, CN 120, N 247, J 258, J 373, 425, CS 453, CN 459, A 507, ME 520, MR 620
Johannesburg Star ... ... M 613
Johns-Manville Corp. ... ... C 9
Johnson, Matthey & Co. A 511, B 592
Johnson & Phillips ... ... A 276
Jos Tin Area (Nigeria) A 109, MM 515
Joy Manufacturing Co. ... ... M 282

K

Kaduna Prospectors ... J 258, ME 290
Kaduna Syndicate ... J 258, ME 290
Kalgoorlie Enterprise Mines ... J 233, ME 260
Kalgoorlie Ore Treatment Co. ME 260
Kalgoorlie Southern Gold Mines S 568
Kampong Lanjut Tin Dredging CS 571
Kamunting Tin Dredging ... J 489, MM 549, MM 617
Kamra Tin Dredging ... J 570, ME 623
Kanbauk Mines ... ... CS 97
Kavirondo Gold Mines ... CS 290
Kayser Aluminum & Chemical Corp. ... ... A 162, T 639
Keir & Cawdor & Co. ... ... A 134
Kennecott Copper Co. C 132, N 335, C 415, J 569
Kentan Gold Areas ... ... MM 456
George Kent ... ... R 283
Kent (F.M.S.) Tin Dredging ... J 619
Kenya Consolidated Goldfields N 179, J 640
Kenya Kyanite ... ... N 179
Kepong Dredging Co. ... J 570, ME 596
Killinghall Tin ... ... CS 21, ME 25
King Island Scheelite N.L. C 63, 275, 359
Kingston (Open Cut) Gold Mines C 161
Kinta Kellas Tin Dredging ... J 233, ME 290
Kinta Tin Mines ... J 74, ME 99
Klerksdorp Consolidated Goldfields ... ... ME 621
Kononga Gold Mines CS 52, MM 73, A 215, J 545, 563
Kramat Pulai ... ... J 570, ME 623
Kramat Tin Dredging... ... J 118
Kuala Kampar Tinfields ... J 118
Kwahu Mining Co. ... ... CS 519

L

Labrador Mining & Exploration Co. ... ... A 636
Lahat Tin Mines CS 290, ME 325, N 413
Lake George Mining Corp. MM 73, S 214, 487, J 545, N 633
Lake Shore Mine (Kirkland Lake) C 9
Lake View & Star MM 18, CS 308, S 449, J 489, 545, 546, A 563, M 589, ME 621, N 633
Lanarkshire Welding Co. ... A 185
Lampa Mining Co. ... J 546, ME 642
Lawrence Scott and Electro-Motors ... ... A 276
Leadhills Mines ... ... N 274
Lindsay Light & Chemical Co. C 86
Libanon Gold J 45, A 181, J 451, A 507, S 516, J 517, A 536, J 569, MR 620, J 640
Sir Lindsay Parkinson & Co. ... J 401
Lobitos Oilfields ... J 96, ME 119
Locked Coil Rope Makers' Assoc.... ... ... A 441
London and African Mining Trust ... ... CS 97
London Australian & General Exploration Co. ... ... CS 596
London & Rhodesian Mining & Land Co. ... MM 256, 429, J 594
London Tin Corp. S 72, 117, J 147, ME 262, R 478
Loraine Gold Mine S 343, J 343, B 346, C 439, A 536, J 545
Louis Cassier Co. ... ... R 112
Lovering, Pochin & Co. ... N 129
Lubimbi Coal Areas ... ... P 642
Luipaards Vlei Estate & Gold Mining Co. A 181, J 451, A 507, J 545, 569, 640
Lydenburg Estates J 325, 344, 425, CS 490, J 569
Lyndhurst Deep Levels (G. & S.) ME 48, CS 52, A 215, 563

M

Macalder Mines ... ... N 179
Sir Robert McAlpine & Co. ... A 185
McCulloch Motors Corp. ... M 340
McKechnie South Africa ... A 276
J. & H. McLaren ... ... A 276
Macleod-Cockshutt Gold Mines C 535
McIntyre-Porcupine Mines ... C 108
Magnali Soda Co. ... ... N 179
Magna Copper Co. ... ... C 132
Malayan Tin Dredging ... J 570
Malaysiam Tin ... ... MM 256, J 570
Manchester Oil Refinery ... ... A 39
Marievale Consolidated Mines J 147, A 181, A 507, J 569, MR 620
Marlu Gold Mining Areas J 96, 119, J 191, A 215, ME 236, A 563
Marion Power Shovel Co. ... ... M 340
Marston Excelsior Electric Shot-Firing Apparatus ... B 456
L. H. Marthinusen Ltd. ... A 276
Masara Co. ... ... N 179
Mashaba Rhodesian Asbestos... J 344
Fred. C. Mathieson & Sons ... R 140
Mavor & Coulson N 159, A 163, 279
Mawchi Mines ... ... J 451
Mazapil Copper Co. ... ... J 289
Meco-Moore ... ... A 185
Mercantile Bank of India ... B 456
Mercedes Co. ... ... J 20
Merriespruit (Orange Free State) Gold Mining C 337, J 344, CN 462, A 507, 536, J 569
Meru Tin ... MM 543, CS 619
Messina Copper (S.A.) ... ... A 215
Messina (Transvaal) Development Co. ... ... N 413
Metal Information Bureau ... R 112
Metal Industries ... ... MM 309
Metropolitan Vickers Co. ... B 189, A 276, 441, 477
Middlevlei Estate & Gold Mining Co. ... CS 518, C 559
Middle Witwatersrand (Western Areas) CS 172, A 181, S 190, CS 192, J 344, 424, CN 460, A 507, J 569, 640
Midland Bank ... ... MM 71
Jas. Miller, Son & Co. ... ... A 134
Mineral Associates ... ... MM 71
Minerals Engineering Co. ... C 132
Mineral Holdings ... ... J 289
Minerals Separation ... ... A 203
Mineira do Norte de Portugal Mines Accident Prevention Assoc.... ... ... C 535
Mines Safety Appliances Co. ... M 253
Mines Branch, Ottawa ... ... R 207
Mines Development Syndicate (West Africa) ... ... A 109
Mining Congress Journal ... A 505
Mining Directorate, Argentine C 160
Mining Journal N 8, 160, 317, 365, 386
Mining and Metallurgical Club MM 18, 406, 456
Mining Trust ... ... MM 286
Ministry of Fuel and Power B 18, N 85, A 110, 163, MM 309, B 346, N 438, A 441, R 444, M 483, MM 486, A 564, N 583
Ministry of Supply ... ... N 504
Mirrlees Bickerton & Day ... A 276
Modderfontein B Gold Mines ... A 507
Modderfontein East J 324, CN 347, A 507, ME 548, J 569, J 640
Mond Nickel Co. ... R 165, T 166
Montecatini Co. ... ... P 94
Morro Velho Mines ... ... C 86
Motapa Gold Mining Co. ... MM 116, A 215, J 489, 545, A 563
Mount Charlotte (Kalgoorlie) Gold Mines ... ... C 63, J 288
Mount Ida Gold Mines ... J 288
Mount Isa Mines C 63, MM 71, C 161, 359, S 487, CS 519, C 609
Mount Lyell Mining & Railway Co. C 161, A 215, C 359, CS 519, A 563, M 589, C 609
Mount Morgan ... C 275, J 372, C 475
Mpororo Mining Co. ... ... MM 169
Mufulira Copper Mines MM 73, S 190, A 215, MM 286, A 391, N 437, S 487, J 489, J 517, ME 522, DR 551, A 563
Muirshiel Barytes Co. ... ... A 134
Murex Welding Processes A 88, B 456
Mysore Gold Mining ... D 173, A 450, ME 572

N

Nanwa Gold Mines S 117, J 258, 370, M 395, CS 570
Naraguta Extended Areas ... J 258
Naraguta Karama ME 234, J 258
Naraguta Tin Mines ... ... J 307
National Association of Colliery Managers ... ... A 185, 416
National Bank of Australasia... B 592
National Bank of India B 18, 456, 486, 517
National Coal Board N 7, C 62, M 68, MM 94, T 113, N 160, A 185, M 210, N 224, MM 309, B 346, J 370, N 438, A 441, N 503, 583, M 613
National Fuel Research Institute, India ... ... C 390
National Mining Corp.... ... J 118
National Tube Co. ... ... T 186
National Union of Mineworkers N 583
Natural Resources Development Council... ... ... N 61
Nchanga Consolidated Copper Mines S 19, ME 25, J 73, CS 97, MR 98, A 391, J 402, N 437, N 534, CS 546, DR 551, J 570
Nechi Consolidated Dredging... A 563
Ngiga Mining Co. ... ... N 179
New Broken Hill Consolidated A 215, 563
New Consolidated Free State Exploration Co. CS 172, J 424, 545
New Consolidated Gold Fields of South Africa MM 71, N 179, A 181, J 517
New Consols Mine N 129, MM 309, C 387
New Coolgardie Gold Mines N.L. C 161, J 171, A 215, C 275, J 288, ME 325, C 475
New Durban Gold and Industrials ... ... CS 640
New Era Consolidated CS 586, DR 612
New Free State Gold Estates CS 490, J 545
New Gold Fields of Venezuela CS 290, N 474
New Klerksdorp Gold Estates... CN 460
Newlund Gold Mines ... ... C 440
Newman Industries B 286, M 396, B 456
New Modderfontein Gold Mining Co. A 181, J 372, 428, A 507, ME 522
Newmont Mines Corp.... ... C 225
New Nigel Estate and Gold Mining ... ... CS 518
New Pioneer Central Mining S 190, CS 192
New Occidental Gold Mines ... C 275
New Saza Mines ... ... MM 71
New State Areas J 45, A 181, 507, J 569
New Union Goldfields CS 192, J 258, 401, 569
New Zealand Crown Mines ... CS 619
Nigel Gold ... ... J 146, 640
Nigerian Electricity Supply Corp. ... J 259, CS 290, ME 290
Nkana Copper Refinery (Rhodesia) ... ... R 13
Non-Ferrous Tube Co. (Pty) ... A 276
Noranda Mines ... ... S 287
Nordberg Manufacturing Co. of Milwaukee ... ... M 483
Norsk Bergwerk ... ... C 388
North American Cyanamid ... A 276
North Broken Hill ... C 64, S 144, CS 260, C 359
North Kalgurli (1912) ... ... J 370, ME 428, A 563
Northern Rhodesian Copper Companies ... ... CS 192
Northern Aluminium Co. ... A 479

Northern Miner Press ... R 321, C 440
N.R.C. Radio & Electrical Engineering Division at Ottawa ... ... M 396
Nucleonic and Radiological Developments ... ... B 189
Nundydroog Mines ... A 450, ME 574
Nyasza Mines ... ... CS 147

O

Oceana Consolidated Co. ... J 344
L. Oertling ... ... M 564
The Oil and Gas Journal ... O 321
Oldham & Son ... ... C 35, A 276
Jack Olding Co. ... ... M 14, B 18, M 138, 282, B 456, 543
Ontario Department of Mines ... C 109
Ooregum Gold Mining Co. ... CS 147, A 450, ME 574
Organization for European Economic Co-operation ... N 202, 335, 556, 602
Oroville Dredging Co. ... MM 593, 617
Orqurma Co. ... ... C 86
Osborne and Chappel ... ... N 533
Oximetal Co. ... ... C 86

P

Pahang Consolidated ... ... J 596
Pari Tin ... ... CS 596
Paringa Mining & Exploration B 346
Park-Utah Consolidated ... C 415
C. A. Parsons & Co. B 345, 429, 456
Patino Mines & Enterprises ... N 61
Pato Mines (Colombia) ... A 563
Pattani Tin ... ... CS 97, J 596
Peñakalen ... J 452, ME 522
Perak River Hydro Electric Power Co. ... ... ME 596
Peruvian Associated Gold Mines MM 543
Perth-Amboy Refinery ... N 335
Petaling Tin ... A 65, CS 571, 487
Petrochemicals ... ... MM 116
Petroleum, London, 1950 ... T 364
Petroleum Press Service ... A 39
Petters ... ... A 276
Phelps Dodge Corp. ... C 132, 415
Phoenix Prince... ... ... A 215, 563
Pittsburgh Consolidated Coal Co. ... ... A 226
Porphyry (1939) Gold Mine ... J 288
Porters Engineering Products ... M 317
Powell Duffryn... ... S 72, ME 455, B 456, N 473
Powell Duffryn Carbon Products ... A 250, J 370, ME 455
Powell Duffryn Technical Services ... J 370, B 456, 592
Powell Duffryn Steam Co. ... ... O 137, P 264, B 286
Precision Equipment (Pty) ... A 276
Premier Metal Co. of S.A. ... B 592
Premier Trinidad Oilfields ... J 118, B 286, MM 456
President Brand Co. ... ... A 181, 507, 536, J 569, 640
President Steyn Co. ... A 181, S 214, N 247, C 337, J 402, C 439, CS 490, A 507, 536, C 559, J 569, CS 590, J 640
Pressed Steel Co. ... ... P 94
Publications Minieres et Metallurgiques ... ... R 112
Puket Tin Dredging Co. ... ... J 20

R

Raman Research Institute ... C 180
Randfontein Estates Gold Mining Co. ... ... J 146, A 181, 507, MR 620, J 640
Rand Leases (Vogelstruisfontein) ... ... J 45, 146, A 181, CN 460, A 507, J 569, MR 620, J 640
Rand Mines ... ... S 568
Rand Selection Corp. ... N 247, CN 350, ME 624
Ransomes, Simms & Jefferies ... MM 189
Rapid Magnet Machines ... M 229
Rawang Concessions ... ... J 118
Rawang Tin Fields ... ... J 118
Renong Tin Dredging Co. ... J 489, ME 492
Republic Steel Corp. ... ... P 620
Revere Copper & Brass Co. ... N 335
Reynolds Metal Co. ... A 162, N 223
Rezende Mine ... ... A 215, 563
Rhodesian Alloys ... B 286, P 642
Rhodesian Anglo American ... J 402, ME 405, N 534, ME 551, S 544, CS 546, J 570
Rhodesia Broken Hill Development ... S 19, J 20, ME 23, MM 94, S 214, J 402, S 422, N 534, CS 546, DR 551, J 570
Rhodesia Copper Refineries ... A 391, J 402, CS 518, N 534, CS 551, DR 551, J 570
Rhodesia Katanga ... J 171, MM 456
Rhodesian Selection Trust ... CS 518
Rhodesian Technical Press ... R 614
Rhokana Corp.... ... A 391, J 402, N 437, ME 458, J 488, S 448, MM 515, N 534, ME 547, CS 546, J 570
Rietfontein Consolidated (No. 11) Gold Mines ... A 181, 507, J 545
Rio Tinto ... ... S 422, MM 515
Riscom ... ... N 61
Roan Antelope Copper Mines ... S 190, A 215, MM 286, A 391, N 437, J 488, S 487, ME 491, A 563, 585
Robinson Deep ... ... J 45, A 181, 507, J 545, 569, 640
Rochester & Pittsburgh Coal Co. M 454
Rolls-Royce ... ... M 138, 282
Rooderand Main Reef Mines ... CS 453, J 569
Rooiberg Minerals Development Co. ... MM 309, 456, CS 518
Rose Deep ... ... A 181, ME 326, A 507, J 569, MR 620
Ross Institute ... ... MM 586
Rosterman Gold Mines ... MM 169, N 179, J 424, ME 492, A 563
Round Mountain Gold Dredging Co. ... ... C 133
Royal Dutch Shell ... ... A 39
Royal School of Mines ... ... A 560
Royal Society of Arts ... ... MM 486
Rukuba Tin Mines ... ... CS 519
Rupununi Gold Mining ... N 107
Ruston & Hornsby ... ... B 592
Rustenburg Platinum Mines ... S 117

S

Sanbra (South Africa) (Pty.) ... A 276
S. A. Reserve Bank ... N 107, R 112
San Francisco Mines of Mexico S 144, ... A 215, MM 256
Scope Books ... ... R 38
Scientific and Industrial Research of the Government of India ... ... T 304
Scottish Australian Mining Co. ... J 191, ME 234, CS 290
Mr. Reginald B. Scott ... ... B 213
Selection Trust... MM 286, S 423, J 545, CS 640
Selukwe Gold Mining & Finance Co. ... ... CS 172
Shell Caribbean Petroleum ... A 39
Shell Chemical Manufacturing Co. ... ... M 14, B 169
Shell Oil Co. A 39, N 108, R 365, 478
Shell-Mex & B.P. ... ... B 43, 592
Shell Transport & Trading B 189, S 544
Sherritt Gordon ... ... C 248
Sherwood Starr Gold Mining Co. CS 453, A 563
Short Bros. & Harland ... ... M 210
Siebe Gorman & Co. ... ... T 166
Sierra Leone Development Co. N 179
Sigmund Pumps ... ... M 14
Silver King Coalition ... ... C 415
Silvermines Lead & Zinc Co. J 371, CS 640
Simmer & Jack... ... J 45, A 181, 507, J 545, 640
The Sink & Float Corp. Inc. ... M 283
Thomas Skinner & Co. (Publishers) ... R 112, 283, 444
Walter E. Skinner ... ... R 38
Smithsonian Institution ... R 165
Societe des Mines d'Or de Kilo-Moto ... ... A 183
Societe Francaise de Metallurgie ... ... MM 592
Societe Generale de Hoboken... A 361
Societe Miniere du Dahomey Niger ... ... MM 592
Societe Miniere Industrielle Franco-Bresilienne ... ... C 86
Society of Chemical Industry ... N 388
Socony Vacuum Oil Co. P 264, J 370
Sons of Gwalia ... ... ME 48
South African Academy for Science and Art ... ... C 33
South African Alkali ... ... CS 640
South African Association of Assayers ... ... MM 515
South African Bureau of Standards ... ... A 301
South African Chamber of Mines ... ... C 131, 439
South African Coal Estates (Witbank) ... ... CS 596
South African Coal, Oil & Gas Corp. ... ... C 439
South African Cyanamid (Pty) A 276
South African Institution of Engineers ... ... A 391
South African Land & Exploration Co. ... ... A 181, 507, J 569
South African Mineworkers' Union ... ... N 180
South African *Mining Journal* Syndicate ... ... R 614
South African Reserve Bank ... A 276
South African Standards Council A 301
South African Torbanite Mining & Refining Co. J 452, CS 518, J 569
South Australian Mines Dept. R 165
South Banket ... ... A 215
South Bukeru ... ... CS 172
South Croftv N 129, C 387, MM 429, ... CS 453
South-East London Technical College ... ... MM 486
South Kalgurli Consolidated ... J 191, A 215, ME 290, J 370
Southern Kinta Consolidated... J 489, CS 640
South Roodepoort H.R. Areas A 181, 507, J 569, MR 620
Southern Tronoh Tin Dredging ... J 426
South-West Africa Co. ... ... CS 518
Spaarwater Gold Mining Co. ... ME 236
Springer-Verlag ... ... K 562
Springs Mines J 45, A 181, 507, J 569
Star Explorations ... ... CS 640
Steel Co. of Wales ... ... C 111
Steep Rock Iron Mines C 440, A 636
Robert Stephenson & Hawthorn R 539
Stewarts & Lloyds MM 18, A 206, 276, M 512
Stilfontein Goldmining Co. C 131, J 402, 424, C 439, S 618
St. Helena Gold Mines A 181, J 344, S 400, 487, A 507, 536, J 640
St. John del Rey Mining Co. MM 515, C 635
Streamline Filters ... ... OB 406, CS 453, ME 493
Sub Nigel (Gold Fields Group) J 147, A 181, J 451, A 507, J 545, 569
Sullivan Mining Co. T 113, C 132, 225, A 203, C 415
Sungei Besi Mines ... A 279, CS 571
Sungei Kinta Tin Dredging ... J 45
Supreme Council for Mines and Quarries ... ... MM 189
Richard Sutcliffe R 444, B 456, M 589
Switchgear & Engineering Corp. of S.A. (Pty.) ... ... A 276
Switchgear & Erection Co (Pty.) A 276
Sydvaranger Iron-Ore Mines ... M 483

T

Tableland Tin Dredging N.L. C 609
Tanganyika Central Gold Mine CS 640
Tanganyika Concessions S 44, J 146, CS 172, S 257, J 289, N 413, S 449, ME 455, MM 515, B 543, MM 592, S 618
Tanjong Tin Dredging... ... ... J 75, ME 99, CS 596
Taquah and Abosso Mines A 215, S 257, J 344, J 545, A 563, J 427
Tavoy Tin Dredging ... ... J 427
Taylor Woodrow Construction M 589
Tehidy Minerals ... ... J 373
Tekka Taiping ... ... J 594, ME 624
Temple Press ... ... R 539
Temoh Tin Dredging ... ... CS 546
Thistle-Etna Gold Mines ... A 215, 563, CS 571
Richard Thomas & Baldwin ... J 96, B 169, 456, 592
John I. Thornycroft & Co. ... B 456
T.I. Aluminium ... ... R 283
Tin Research Institute R 283, 639
Tongkah Harbour Tin Dredging CS 21, 519
Transvaal Chamber of Mines ... C 35
Transvaal Gold Mining Estates J 45, A 181, 507
Trepca Mines ... ... CS 640
Transvaal Mining and Finance CS 571
Trinidad Consolidated Oilfields J 118
Trinidad Leaseholds ... ME 236, S 544
Trinidad Petroleum Development ... ... S 343
Tronoh Mines J 426, N 437, ME 455
Tweefontein Colliery ... MM 256, J 289

U

Ultramar Co. J 20, A 39, S 72, S 369, J 545
U.N. Economic Commission for Europe ... ... R 140
U.N. Headquarters, Lake Success N 567
U.N. Publications Sales R 321, 639
Union Bank of Australia B 169, 592
Union Corp. J 45, S 72, J 73, 146, MM 169, A 181, MM 515, J 569, ... S 593, MR 620
Union Free State Coal and Gold Mines S 214, N 247, MM 256, C 337, J 344, 401, CN 450, CS 453, 490, ME 549
Union Free State Mining & Finance Corp. ... J 424, B 543
Union Miniere du Haut Katanga ... ... J 289, A 361
Union Platinum Mining Co. ... J 545
Union and Rhodesian Mining & Finance Co. ... ... CS 97
Union Steel Corp. (of S.A.) B 346, B 486, MM 592, B 592
United British Oilfields of Trinidad ... ... MM 71
United Electric Coal Companies of Chicago ... ... MM 286
U.S. Bureau of Mines R 112, T 166, M 210, R 228, P 293, T 304, C 415, A 586, N 607, A 611, R 614, P 628, C 635, A 636
U.S. Convention of the Assoc. of Iron and Steel Engineers T 364
U.S. Dept. of Commerce ... R 140
U.S. Dept. of the Interior A 183, R 209
U.S. Geological Survey ... N 61, A 205, T 304, N 336, C 635, T 639
U.S. Metals Refining Co. ... ... A 88
U.S. National Bureau of Standards ... ... C 584
U.S. Plywood Corp. ... ... T 364
U.S. Smelting, Refining & Mining Co. ... ... A 560
U.S. Steel Corp. ... ... B 286
U.S. Tariff Commission ... ... A 162
United Steel Companies ... T 166, 186, J 452, B 543
United Tin Areas of Nigeria ... CS 608, MM 660
University of Durham, King's College *Mining Bulletin* A 163, MM 169
Uruwira Minerals ... J 171, CS 547
Utah Construction Co. ... ... C 415
Utah Copper Co. ... ... R 13

V

Vanadium Corp. of America ... C 132
Vanderbijl Engineering Corp.... A 276
Van Dyk Consolidated Mines ... J 569, S 214, 487, MR 620, J 640
Van Ryn Gold Mines Estate ... J 288
Vauxhall Motors Production Engineering Division ... ... B 543
Vereeniging Brick & Tile Co. ... J 494
Venezuelan Development Corp. N 180, 474
Venezuelan Diamond Co. ... ... N 474
Venterspost Gold Mining J 45, A 181, J 451, A 507, J 517, J 545, 569, MR 620, J 640
Venture Trust ... ... N 107
Vickers-Armstrong ... ... M 138, 282
Vickers ... ... A 276, R 365, B 456
Victoria Gold Dredging Co. ... C 275
Victor Leggo Mining Co. ... ... M 589
Victory Divide Mining Co. ... C 132
Village Main Reef Gold Mining Co. (1934) A 181, CN 460, J 569
Virginia O.F.S. Gold Mining Co. A 181, J 258, 337, 424, CN 462, A 507, 536, J 569
Vivian Diesel Engine Works ... B 189
Vivian Younger & Bond ... B 617
Vlakfontein Gold Mining Co. A 181, 507, J 545, 569, 640
Vogelstruisbult Gold Mining Areas J 146, A 181, 507, J 545, 640
Volta Redonda ... ... P 264
Vulcan Foundry ... ... P 264

W

C. C. Wakefield & Co. ... ... A 39
Wanderer Consolidated Gold Mines ... MM 71, A 215, J 489
Wankie Colliery Co. S 72, O 137, S 369, MM 429, 456, N 473
Waterval (Rustenburg) Platinum Mining Co. ... ... J 545
H. A. Watson & Co. ... ... B 43
Wednesbury Tube Co. ... ... A 276
Weirton Steel Co. ... ... T 40
Welgedacht Exploration Co. J 43, A 181, CS 453, A 507, C 559
Welkom Gold Mining Co. MM 18, A 181, N 247, CS 490, A 507, 536, J 569, 640
West Driefontein Co. J 451, A 507, J 517, 545, C 559, J 640
West Rand Consolidated J 43, 146, A 181, 507, MR 620, J 640
West Vlakfontein Gold Mining Co. ... ... ME 236
West Witwatersrand Areas ... C 439, A 507, J 517, 545
West Virginia Coal Mining Institute ... ... T 40
Western Holdings MM 18, S 257, CS 290, J 325, C 337, A 507, 536
Western Mining Corp. J 171, A 215, C 275, J 288, ME 325, MM 543, CS 571
Western Reefs Exploration & Development J 43, A 181, 507, J 569, MR 620
Western Ultra Deep Levels S 72, J 517
Westinghouse Brake & Signal Co. ... ... A 276
Westinghouse Electric Corp. ... B 169, M 445
Westinghouse Materials Handling Conference ... ... M 418
Westminster Bank ... B 43, MM 116
White's South African Portland Cement Co. ... ... J 289
Wicklow Mining Co. ... ... MM 169
A. C. Wickman ... ... A 276
Winding Engine Manufacturers A 441
Wire Rope Manufacturers of G.B. ... ... A 441
Henry Wiggin & Co. T 166, R 228
Williams Brothers Co.... ... N 108
Willoughby's Consolidated ... MM 94
Witbank Colliery CN 526, CS 596
Witwatersrand Deep ... CS 596
Witwatersrand Extensions S 117, CS 148 C 337, J 343, C 439, J 545,
Witwatersrand Gold ("Nights") Mine ... ... J 45, A 181, 507
Witwatersrand Nigel J 43, 146, ME 236, MM 286, CS 453
Wolverhampton Metal ... ... B 592
Jonas Woodhead & Sons ... A 276
Woodhead-Kempo Springs (Pty.) A 276
Wright's Ropes... ... B 18, A 136

Y

Yacimientos Petroliferous Fiscales ... ... O 321
Yuba Consolidated Goldfields... C 132
Yugoslav Metallurgical Institute ... ... MM 189
Yukon Consolidated Gold Corp. S 308

Z

Zaaiplaats Tin Mining Co. ... J 452
Zambesia Exploring Co. ... ... C 543
Zeehan Mines Pty ... ... C 359
Zinc Corp. C 63, A 215, C 275, A 563

Printed in England for The Mining Journal, Ltd., by Samuel Sidders & Son Ltd., 115, Salusbury Road, London, N.W.6. February 23, 1951.

The Mining Journal

Established 1835

Vol. CCXXXVI No. 6027 | LONDON, FEBRUARY 23, 1951 | PRICE 8d

EDITORIAL and ADVERTISING ENQUIRIES TO:
15 GEORGE STREET,
MANSION HOUSE
LONDON, E.C.4
Tel. Nos.: MANSION HOUSE 5511 & 9182

SUBSCRIPTION RATES:
(Including Postage)
INLAND: 10s. ... 3 months.
18s. ... 6 ,,
32s. ... 12 ,,
ABROAD: 40s. ... 12 ,,

THIS WEEK'S FEATURES

GEOLOGY OF THE COMMONWEALTH OF AUSTRALIA - - Page 173

DIAMONDS AND BASE MINERALS IN SOUTH-WEST AFRICA - Page 175

NOTES AND COMMENTS

Mr. Trounson on Cornish Mineral Potential

The Cornish Mining Development Association has, since its inception, continually advocated the revival of the British non-ferrous mining industry and in particular the greater utilization of the un-mined mineral reserves in Cornwall—but with little success. Fresh hope, however, was infused with the appearance of the Westwood Report in 1946, which specifically stated that it was essential for the South Crofty mine to be kept in operation, and held that this was a matter of some urgency. It noted, too, that Geevor had at least three years' supply of ore reserves and that the area adjacent to the mine was geologically favourable to the discovery of new resources. The Hemerdon mine, near Plymouth, stated to contain a large but low-grade wolfram-tin deposit, was singled out as a mining proposition which presented a strong argument for the outlay of capital.

These considerations apart, the gist of the committee's overall investigation was that if the Cornish tin mining industry is to be revived the shortage of manpower must be overcome, a large amount of risk capital found, the mines unwatered, ore reserves built up and in general, the capital structure of the industry re-organized. These findings were of necessity viewed in the light of the price of tin then current, namely, £590, and with regard to the Hemerdon mine, the fact that operating expenditure during the last war amounted to 190s. per unit. But far more important was their major premise that because of the long history of tin mining in Cornwall there had been a "gradual exhaustion of the known and more accessible deposits."

This last conclusion reached was not an unnatural one, for since the appearance of Mr. J. H. Collins' *magnum opus*, "West of England Mining," at the beginning of the century, no comparable work has been published to bridge the gap in our knowledge of Cornish mining. The publication, therefore, of a memorandum by Mr. John H. Trounson, chairman of the Cornish Mining Development Association, entitled "Mineral Areas in Cornwall Worthy of Investigation," which brings much of Mr. Collins' work up-to-date, is an event of considerable importance.

Mr. Trounson's memorandum features the promising mineral areas in Cornwall, not at present being worked, and which merit investigation. It contains much precise information which has been culled from the reports of mining companies of repute, diamond drilling records, reports written by mining engineers when the mines were active, geological memoirs, the transactions of many scientific bodies, by a careful perusal of hundreds of plans, personal inspection of underground workings wherever possible and, last, but by no means least, innumerable discussions by mining men who have since died without leaving any published record of their knowledge. Most of this information has never before been published and therefore constitutes a unique document which should be of real value when the country decides to use its latent mineral resources.

Mr. Trounson examines 25 districts in Cornwall worthy of investigation, and challenges the Westwood Committee's assumption that a gradual exhaustion of the known and more accessible deposits has already taken place. The author goes into some detail as to why the vast majority of the mines in Cornwall shut down and cites as the main reasons: unsound capital structures, antiquated equipment, labour shortages and, in some cases, inefficient management.

Of particular interest is his statement that the Scorrier Mining Area constitutes one of the best, if, indeed, not the most promising large mining areas to be found in the whole of Cornwall. The mines in this area are nearly all shallow, very few of them having attained a depth of 1,000 ft. from the surface, while most of them are considerably less. Practically the whole of these mines are connected with the Great County Adit which drains an area of 30 miles in this and the adjoining Gwennap copper district and therefore presents a serious unwatering problem. "The mines," Mr. Trounson writes, "have mostly been worked on a small scale and succumbed during times of depressed metal prices, or were abandoned by typically 'copper' managements when the bottom of the copper zone had been reached. Very few of the mines have reached the granite in depth, but it is significant that in several of them tin, arsenic and wolfram were all beginning to make their appearance in some quantity." Mr. Trounson considers that the area bears a striking parallel to the great Illogan area and that development ceased at what was probably the transitional zone.

To put Mr. Trounson's memorandum in a realistic light it must be remarked that the price of tin at present is more than double what it was at the time of the Westwood Report, and that the current price of wolfram is around 600s. per unit. Armed with these two figures and the fact that defence p.ogrammes are beginning to occupy a more permanent place in our domestic policy, a strong case can be made out for reviving the more promising mining areas in Cornwall. In this connection it might be said that a good beginning could be made by the Government implementing the decisions of its own committee's report.

Raw Materials Supplies

The anxiety of the British Government regarding supplies of raw materials, especially minerals and metals, is emphasized by the reports that the President of the Board of Trade is leaving shortly for Washington where he is expected to stress in particular the difficulties created by the reduction in exports of sulphur and cotton. Obviously the outcome of the various projected committees initiated by the United States, United Kingdom and France, must take a considerable time to produce results, and the United States' President and the Administration are not in the dominant position which our own Government enjoys owing to the often critical attitude of Congress, where big interests are strongly entrenched. Meanwhile, the situation here is obviously critical if unemployment is not to ensue. Last week the *Board of Trade Journal* contained a lengthy statement of the present situation and outlook for raw material supplies, but so far as metals and minerals are concerned it adds little to the information which has already appeared in the *Mining Journal*. As regards aluminium, the report is somewhat more favourable than was generally known, as the consumption limitation for the first half of the year of 15,000 tons a month is slightly higher than the figure for the first nine months of last year, and in addition to having secured 200,000 tons from Canada for 1951, supplies of 220,000 tons a year for 1952 and 1953 have been arranged with Alcan. As regards sulphur, it is disclosed that as early as June of last year the U.S. sulphur producers warned the British authorities not to plan for the use of more than 80 per cent of our requirements. The Board of Trade accordingly reduced the production of super-phosphate but apparently rested there until the middle of December when the U.S. Government took over allocations for uses at home and abroad. It is difficult to suppose that the Ministry of Supply were not attentively following developments in the world situation, at any rate after the commencement of the war in Korea, and industrialists generally may not unreasonably complain that the optimistic statements made in Parliament from time to time did not prepare them for the present flurry or inspire confidence in the prescience of the Department.

Cyprus had a Bumper Year in 1950

With the export figures for December from the Cyprus mines now to hand, showing in that month cupreous concentrates 9,300 tons, iron pyrites 64,056 tons, cupreous pyrites 14,430 tons, asbestos 958 tons, gypsum 1,250 tons and umber 1,022 tons, it is clear that mining in the Colony was exceedingly prosperous in 1950, and the total value reported month by month aggregated £5,395,720 as compared with £3,675,990 in 1949, which itself exceeded 1948 by £1,083,389. Of course, the tonnage recorded did not show any increase comparable to that in value. Indeed, with the comparatively small number of workers employed this would have been out of the question. The following table gives last year's production, reported in alphabetical order, 1949 figures being added by way of comparison:

	1950	1949
Asbestos	14,569 tons	11,098 tons
Chromite	18,150 ,,	14,640 ,,
Cupreous Concentrates	103,679 ,,	111,390 ,,
Cupreous Pyrites	111,021 ,,	77,820 ,,
Iron Pyrites	533,501 ,,	401,768 ,,
Gypsum	62,559 ,,	23,979 ,,
Umber	7,065 ,,	3,623 ,,

For so small an island an output valued at nearly £5,500,000 is a noteworthy result and recalls the fact that in classical times, Cyprus was one of the world's leading sources of metals.

India and Ceylon

(From Our Own Correspondent)
Colombo, February 5

Mr. S. N. Buragohain, Deputy Minister, Works, Mines and Power, Government of India, stated in the Union Parliament at New Delhi that expert investigations into the reserve and conservation of metallurgical coal in India had revealed that provided adequate measures were taken for conservation, there was no need for undue alarm regarding the country's coal reserve.

Mr. D. Kerr-Cross, mining engineer of the Geological Survey, accompanied by three other engineers, has proceeded to Pindki, situated at an altitude of nearly 11,000 ft. in the Yamuna valley, in connection with the prospecting of lead and silver mines there. The party is also expected to visit Gangotri and Yamunotri for a chemical examination of the thermal springs of the area. The party was lately in Tehri town where it was engaged in a survey of hill areas where copper, lead, silver and iron shows are found in abundance.

Mr. M. Bhaktavatsalam, Minister of Public Works, Madras, stated recently that an aluminium factory was likely to be started in Salem District, Madras, and negotiations are now going on towards this end between the Government of Madras and the Dalmia Group.

It is stated that the present volume of production of steel in India should be increased four times if India is to achieve self-sufficiency in this regard, and little progress has so far been achieved regarding the proposals for the establishment of two steel factories in Orissa and Madhya Pradesh. Originally the plants were estimated to cost Rs.700,000,000 each. The Koppers Firm, of America, has now given a revised estimate of Rs. 510,000,000 for one plant. Mr. H. Mahtab, Minister for Industry and Supply, stated in the Union Parliament at New Delhi that the main obstacle in the way of implementing these schemes was finance, and they would be started as soon as finances permitted.

CEYLON'S GRAPHITE TRADE WIDENS

American purchases of Ceylon plumbago recorded a very sharp rise last year. From the position of the third biggest importer of Ceylon graphite in 1949, the United States of America replaced Britain to become the biggest buyer in 1950. The purchases up to November, 1950, totalled over 100,000 cwt.—more than double the purchases during the whole of the previous year.

British purchases last year were roughly the same as in 1949. An interesting feature of last year's graphite trade has been the complete disappearance of Japan as an importer. However, there was a marked stepping up in the exports of Ceylon graphite to Italy. Other countries that have taken sizable quantities of Ceylon graphite last year have been Australia and India.

The total exports of Ceylon graphite up to November last year were 231,000 cwt. as compared with 245,000 in the whole of 1949.

Ceylon is shortly to produce nearly two-thirds of her annual requirements of iron and steel goods locally. Technical reports submitted to the consultants of foreign companies were examined by a three-day conference with the Ministry of Industries and Industrial Research by Mr. M. K. Powla, Iron and Steel Controller of the Government of India, and Mr. V. M. Subramaniam, Iron and Steel Consultant of the ECAFE, whose services were lent by the Indian Government to Ceylon.

Definite recommendations are now to be made to the Cabinet for the implementation of the iron and steel industry project. The current budget has provided a token grant for the establishment of the factory.

The Geology of the Commonwealth of Australia

Review by SIR CYRIL S. FOX, D.Sc., F.G.S.

This notable work by the late Sir T. W. Edgeworth David, K.B.E., C.M.G., D.S.O., M.A., D.Sc., LL.D., F.R.S., Professor Emeritus of Geology in the University of Sydney, has been edited and much supplemented by W. R. Browne, D.Sc., Reader in the Department of Geology, University of Sydney. It is in three volumes. Published by Edward Arnold & Co., 41, Maddox Street, London, W.1. First published in 1950. Price £12 12s.

There has been no previous treatise dealing comprehensively with the geology of the Commonwealth of Australia and Australian New Guinea. Edgeworth David appears to have conceived the idea of preparing a book of this kind in 1914, but the War (1914-18), absorbed his services as Chief Geologist to the British Armies on the Western Front. Indeed, it was not until after 1924, when he retired from the Chair of Geology in the University of Sydney, that he found time to prepare the coloured Geological Map (and Explanatory Notes to accompany it) and published these in 1932. Sir Edgeworth David had collected a vast amount of data and had, partially, written several chapters of the book before his death in 1934. It was thus left to be completed, not merely by supplement, as Dr. Browne modestly terms it, but by actual authorship as well as editorship.

It was impossible to publish the book during World War II (1939-45), and Dr. Browne utilized the opportunity to improve the accuracy and completeness of the book within the limits permitted.

Volume I, Part I, covers the various geological periods from the Pre-Cambrian era to the Recent and is thus the *Historical Geology* of the Commonwealth.

Volume II, Part II, deals with the *Physiography* of Australia in ten chapters. In this connection it is worthy of note that in certain of its physical aspects, Australia is unique. Of all the continents it alone possesses no active volcanoes and no permanent snowfields or glaciers, while more than half of it may be classed as arid country. Most remarkable of all, it contains no high mountains.

Volume II, Part III, discussing the *Economic Geology* of the Commonwealth of Australia, treats the subject in fifteen chapters.

Volume III is the case of *Coloured Maps* with Sir T. W. Edgeworth David's Geological Map of the Commonwealth of Australia (dated March, 1931). It is in four sheets and eleven Geological Sections (coloured). The scale is about 1 in. to 47 miles or 1: 2,990,000. There is also a Geological Sketch Map (in colour) of Australian New Guinea.

HISTORICAL GEOLOGY

To geologists there are numerous points of interest in these volumes on the geology of Australia, but the most striking will be perhaps the simple manner in which difficult problems are dealt with. The opening paragraph of Volume I, chapter 1, is typical of the whole treatise in its manner of dealing clearly and definitely with fundamental matters. It reads "Nowhere in the Commonwealth have any vestiges of an original earth-crust been discovered. The granites and orthogneisses which bulk so largely among the oldest rocks, and which were once termed *Fundamental Gneiss*, have been shown to be everywhere intrusive, and some of the most ancient rocks of which we have knowledge possess characteristics which mark them unmistakably as derivative." This is a summation with which many geologists of considerable field experience will agree. It is, however, a matter which must produce food for thought, since the oldest rocks, on the basis of their isotopes of lead and of helium, are believed to be upwards of 1,500 million years old (a Canadian pegmatite was computed at 1,750 million). If these are derivative, then the earth's crust was still older, so that the figure of 2,000 million years appears a safe estimate for the age of the earth.

The manner of treatment, geological period by geological period from the oldest to the most recent, is that normally followed by most geological writers. In these volumes each chapter dealing with a geological period has a map showing the distribution of the deposits of that period in Australia. The reader can thus, at a glance see the areas where the formations of the particular period are still to be found. If then we accept the Pre-Cambrian rocks as the basement to all subsequent formations (Cambrian upwards) laid down during the last 500 million years, both in the sea and in river estuaries, lakes and river valleys, it is seen that barely 33 per cent of the Australian continent shows the pre-Cambrian basement rocks at the surface, the balance of the region is occupied by later sedimentary rocks and volcanic lavas. If Australia is considered, with Tasmania and New Guinea, as a single continental mass occupying, say, 6,000,000 sq. miles (twice the existing land area of Australia), erosion over 500 million years would mean the removal of a thickness of 20 miles from the surface at the rate of 400 tons of rocks per sq. mile per year. Since the continent is still about 0.25 miles above sea-level and is covered extensively by sediments, it means that the earth's crust in Australia has been exceedingly mobile.

The astonishing part of the stratigraphy or historical geology of Australia is that it appears to have been receiving deposits of sediment, either as a sea floor or extensive lake region, for the last 500 million years. Rocks with Cambrian *trilobites* have been found on the Templeton River west of the Silver-lead-zinc ore mines of Mount Isa (Queensland), and Ordovician *graptolite* shales occur in the gold areas of Ballarat and Bendigo (Victoria). The great coalfields, characterized by the *glossopteris* (Permian) flora are well developed in New South Wales (Hunter River), Queensland (Bowen Coalfield) and Western Australia (Collie Basin), and Cretaceous strata cover, perhaps, 600,000 sq. miles in the Great Artesian Basin of Queensland and New South Wales into South Australia. Much of the 9,000 ft. thickness of these strata represent marine sediments.

This re-opens questions of "buoyancy" (of the crust on the *sial* and *sima*) and of "continental drift" and the problem of a "lost land" (Tasmantis) east of Australia. Seismologists are satisfied that the floor of the Tasman and Coral Seas is essentially stable, and is probably composed of sialic or granitic material. It is natural, therefore, to consider the Australian continental mass as including these "sunk lands." A comparison has been drawn between the Indian Peninsula and Australia. The former is dominated by the great arc of the Himalayas and fronted by the Indo-Gangetic depression. The Australian continent has the mountains of New Guinea and the island-festoon as the counterpart of the Himalayas, and the deeply foundered Tasman and Coral Seas to represent the depression. The belief that Australia "drifted" in the Pleistocene period and collided with the Dutch East Indies, while a fascinating hypothesis, fails to be convincing or to give a correct interpretation of the known geological facts. The author (and editor) consider that the countries in question (including New Zealand) have stood in substantially their present relations to each other since at least Middle Palaeozoic times. In the opinion of the reviewer there was almost juxtaposition in the positions of South America, South Africa, Peninsular India and Australia in the Permo-

Carboniferous period (probably bordering the antarctic); but the "break up of Gondwanaland" appears to have occurred after Cretaceous times, although not so late as the Miocene period. The reason is that the island-festoon rose with the Himalaya and the Alpine mountain system.

The chapter dealing with the Quaternary is another of great interest since it draws attention to the effects of the Great Ice Age (of the Northern Hemisphere) in Australia. The Ice Age covered a period of nearly 600,000 years. As the Ice Age passed away immense volumes of water returned to the oceans so that the sea-level rose appreciably. Also, the lands which had been weighed down by the ice rose as they were unloaded, and this deepened still more the oceans to the south. The submergence was initiated some 25,000 years ago and was completed 8,000 to 10,000 years ago. Since these variations of sea-level were world-wide and were experienced in Australia it has been possible to date certain deposits and certain geological events as Pleistocene (= to the Great Ice Age). In the Northern Hemisphere it has been customary to reckon Pleistocene to Recent time-divisions by the development of human culture (Palaeolithic, Neolithic, etc.). In Australia, there is evidence of human occupation as far back as Pleistocene time, but knowledge of the progress of culture among the aborigines is not sufficiently far advanced to be of any great chronological value.

ECONOMIC GEOLOGY

Readers of *The Mining Journal* will certainly become absorbed in Volume II, Part III, of the Geology of Australia. Coal is presumed to have been the first economic mineral to be found in Australia (since it crops on the coast in New South Wales). Gold is believed to have been reported in 1821, but the first metal mine to be opened was a silver-lead ore near Adelaide in 1841, followed by a gold-copper ore n the same State. Kapinda was discovered in 1842 and Burra-Burra in 1845. Payable gold was discovered in 1851 and from then on mining has progressed. At first exploitation was entirely for export, but with increasing demands for domestic industries the development of mineral resources has widened to other metalliferous and non-metallic mineral substances. Transportation facilities and climatic disabilities have also proved severe handicaps, and at one time the Trekelano mine, Cloncurry district (Queensland) sent its copper ore over 900 miles by rail for treatment. In the more inaccessible areas mining was restricted to picking out the best and most easily mined, and so to-day many abandoned mines appear to be worth re-opening for more extensive operations. Another great drawback was lack of water, and many small diggings, such as those for opal, could only be worked when it rained.

The authors do not appear to doubt that there is a close association of ore-deposits and igneous rocks. They say "Many—probably most—of the ore deposits are emplaced among sedimentary and metamorphic rocks, nevertheless a considerable number of them exhibit clear evidences of magmatic origin either through mineral constitution or through an association with igneous rocks which is too close and too general to be fortuitous." Few of the deposits are in volcanic rocks. Metallic copper is sometimes found in trachybasalts and in andesites as original constituents, but the gold reefs in the Silurian andesites of Forbes-Parkes, New South Wales, and the gold (sulphide) ores near Mansfield, Victoria, are thought to be related to granite intrusions. Examples of ore deposits associated with acid, intermediate and basic dyke rocks are numerous. Ores of nickel, cobalt, chromium, platinum and osmiridium mostly occur with ultra-basic and basic intrusions. Gold, silver-lead, zinc, copper and iron appear to be generally found in association with granitic rocks, while tin, bismuth, molybdenum, wolfram and tantalum seem to be closely associated with the most acid types of granite.

GOLD IN WESTERN AUSTRALIA

The only known primary ore deposit of Tertiary age is at Cygnet in Tasmania, where gold occurs near the intrusive contact of alkaline syenite-porphyry with Permian beds. Western Australia was a gold ore region in the pre-Cambrian era, whereas, during the same era, part of Queensland was essentially a copper ore region, and New South Wales (Broken Hill) was an important silver-lead-zinc province. The closing Palaeozoic epoch was marked by intrusive activity which appears to have laid the gold and copper deposits of Gympie, Mount Morgan, etc. of eastern Queensland and New South Wales; although in the south—New England—the lodes of this period are best known for tin, bismuth and molybdenum.

One reef in the Coen field, Queensland, 1,000 ft. in length and within a depth of 300 ft. yielded 40,000 oz. of gold. The Palmer field, also in Queensland, produced gold to the value of £5,500,000, of which 90 per cent was from alluvial deposits. Charters Towers, long a leading producer in this State, yielded £23,000,000 worth of gold in 60 years and is still producing. And Mount Morgan, between 1882 and 1925, from 9,308,000 tons of ore yielded 5,345,000 oz. of gold and 140,000 tons of copper. In 1939 its reserves were computed at nearly 7,000,000 tons of proved sulphide ore (with 4.22 dwt. of gold) and about 2,000,000 tons of probable ore (with 2 dwt. of gold).

Victoria claims to have produced more gold than any other State in the Commonwealth, but there is the greatest diversity in the mode of occurrence of the gold. Almost the whole area of Ballarat West is covered with basalt overlying deep-leads. The working of these revealed the quartz reefs beneath, and these in turn have been worked to depths of 2,300 ft. And so the story continues of the gold in Tasmania and South Australia to Western Australia, where since gold was first discovered in 1886 the total production is already 30 per cent of the gold of the Commonwealth. The outstanding examples are the lodes of Kalgoorlie. They are due to impregnations of sheared greenstones, and the auriferous parts may pass into country-rock so gradually that the limits of mining are determined entirely by decrease in the assay-value of the rock.

Silver-lead and *zinc* ores come second only to gold in total value, and, among producing fields, Broken Hill in New South Wales takes pride of place, but Mount Isa, Queensland, and other mines produce considerable quantities. The commonwealth is the world's second largest producer of lead.

IRON-ORE DEPOSITS

Among other ores and minerals only a few may be mentioned. By far the most important *iron ore* deposits are those of the Middleback Range in South Australia, and it is from the occurrences of Iron Monarch and Iron Prince that the Commonwealth secures its chief supplies for the domestic iron and steel industry. *Uranium* ores are very restricted, being confined entirely to pre-Cambrian rocks in a few localities in South Australia and Western Australia. Only two of the South Australian deposits have been productive—Mount Painter in the Flinders Ranges, and Radium Hill near Olary. Practically the only source of *thorium* is from the monazite beach-sands of Queensland and New South Wales (which average only 1 to 2 per cent of monazite, with 6.6 per cent thoria). Among the non-metalliferous minerals of interest *mica* is discussed, and it is stated that the demand has not been sufficient to justify serious investigations of sources of supply.

Coal mining is perhaps the most important branch of the mineral industry in Australia. The actual and probable reserves of coal in millions of tons are estimated as:

	Anthracite and Bituminous	Sub-bituminous and Lignite Coals
Queensland	1,903	67
New South Wales ...	11,668	50
Victoria	33	37,000
Tasmania	244	—
South Australia	—	650
Western Australia	—	800 (Collie)
Total ...	13,848	38,567

No less than three chapters are devoted to the geology of the coalfields, which indicates the preponderating importance of coal and lignite to the Commonwealth of Australia. Oil-Shale deposits occur in New South Wales and some in Tasmania. Commercial exploitation has been undertaken in both areas. The search for Petroleum continues but without decisive success so far.

In concluding this review, I venture to say that there can be few books on the geology of a continent which are so well arranged and so excellently described, with such an array of sketch maps, sections and tables. The Government of New South Wales is to be congratulated on securing an editor of the ability of Dr. Browne. He has effaced himself and built up a monumental work for the author, the late Sir T. W. Edgeworth David who, were he alive, would have insisted that the book should be a joint-authorship. Every effort appears to have been made to acknowledge assistance, both to the late author and to the present editor. The publishers, Messrs. Edward Arnold & Co., London, have given the reader immense value for little cost and have produced, in these three volumes, a classic in geological literature.

Diamonds and Base Minerals in South-West Africa

Although the Mandated Territory of South-West Africa possesses great mineral wealth—diamonds, gold, extensive deposits of iron ore, base minerals, important resources of lithium, vanadium, beryllium, graphite, high-grade occurrences of Iceland spar and fluorspar—it is still only on the threshold of its development. This survey of the main deposits and the exploratory work carried out so far, assumes special significance in view of the growing metal shortage which will give further impetus to prospecting and mining in this part of Africa.

Among the countries which have lately been engaging the attention of the United Nations Organization is the Mandated Territory of South-West Africa, one of the world's richest sources of diamonds and potentially an important producer of strategic minerals. This huge territory has an area of 317,725 square miles and extends along the Atlantic Coast from the Orange River in the south to Angola in the north. To the north-east, it is bounded by Northern Rhodesia and to the east by the Protectorate of British Bechuanaland and the Cape Province. In 1946, the territory had a total population of 176,108, of whom only 37,858 were Europeans.

During the 1914-18 war, this former German Colony was captured by the Union of South Africa, which established a military régime. In 1919, the Union's House of Assembly formally accepted a mandate to administer the territory on behalf of the League of Nations.

FOUR DIAMOND AREAS

Early in the present century, various occurrences of blue ground in South-West Africa were tested for diamonds, but without success. In 1925, however, the discovery of diamonds in the marine terraces of Alexander Bay, south of the Orange River, directed the attention of prospectors to similar raised terraces at Oranjemund, north of the river, which also proved to be diamondiferous. Further exploration established the occurrence of alluvial diamonds though not continuously, along the coast of South-West Africa, from the mouth of the Orange River northwards to Conception Bay, a distance of over 300 miles. There are four principal areas, namely Kolmanskuppe, east of Luderitz, Pomona, Bogenfels and Oranjemund.

The diamonds occur for the most part in the upper layers of loose detritus, along the floors of the troughs, and in other depressions. This layer ranges in thickness from a few inches up to 25 ft. It is composed of from 20 to 80 per cent of yellow sand and 20 to 40 per cent of coarse material from 1 to 10 mm. in diameter, the diamonds being concentrated in the coarse material. The immediate concentration of the diamonds is brought about by the action of a wind, which blows strongly from the south during a large part of the year and removes the fine material from the upper layers. Before this recent concentration some of the diamonds had been deposited as gravels in old river beds of Tertiary age. Their ultimate source is believed to be pipes of kimberlite. Owing to the irregular distribution of the diamonds, the deposits are worked on a large scale by mechanical excavators, the gravel being sent to Elizabeth Bay or Kolmanskuppe for treatment.

Until the first world war, the deposits were mined by a number of companies, the output being controlled by the German Government and sold through the Diamant Regie in Berlin. In 1920, Consolidated Diamond Mines of South-West Africa was formed by Sir Ernest Oppenheimer and others to take over the German producers, and thenceforth this company has had a virtual monopoly of diamond production in the territory. In 1946, a conversion scheme for De Beers Consolidated Mines and Consolidated Diamonds of South-West Africa was announced, and this scheme was brought into effect the following year.

Due to the fluctuations in world demand, the output of diamonds has varied considerably. The market recovery which took place during the war is reflected by a progressive expansion in production from 41,615 carats worth £821,914 in 1941, to 154,379 carats valued at £915,633 in 1944. In 1949, output amounted to 280,134 carats valued at £3,312,341. An interesting feature of recent production has been an appreciable increase in the average size of stone recovered. In 1932, when the deposits of fine stones to the north of the Orange River began to be worked, the average number of diamonds to the carat was as high as six. By 1941 it had fallen to 0.771. Lately, there has again been a decrease in the average size recovered, the average number of diamonds per carat in 1945 being 1.872.

South-West Africa possesses many beautiful semi-precious stones, such as beryl (aquamarine and heliodor), green and red tourmalines, crystal clear topazes, and transparent purplish-red almandine garnets. Associated with the beryl-bearing pegmatites are tourmalines in considerable variety and rose-quartz. Chalcedony occurs in association with diamonds, but the only variety commanding a regular commercial value is agate. All these gemstones are suitable for cutting and polishing and many other pleasing, but lesser-known stones have been found such as lazulite, dioptase, cordierite and smithsonite. South-West Africa is one of the few countries where the rare mineral dumortierite has been discovered in blue or violet masses suitable for polishing.

Before the recent war, practically all semi-precious stones produced in the territory were exported to Germany. In 1939, the output included 2,000 grammes of aquamarines, 8,775 grammes of tourmalines, and 4,064,256 grammes of rose-quartz. When the war started, production had to be suspended on account of the small demand and

the difficulty of finding cutting facilities. Last year, small outputs of tourmalines and aquamarines were recorded. It is possible that interest in the territory's attractive gemstones may be stimulated by the recent decision of a well-known manufacturing jeweller to transfer his factory from Europe to South-West Africa.

Gold is produced on a small scale from auriferous reefs and alluvial deposits in the Omaruru district. Attempts have also been made from time to time to extract gold from alluvium in various stream beds, but with few exceptions, no rich or extensive patches have come to light. An occurrence in the Rehoboth district aroused considerable interest some years ago, but the returns proved disappointing and there has been no production since 1941.

BASE MINERALS

The most important base mineral producer in South-West Africa is the Tsumeb Mine, which for many years was owned and operated by the Otavi Minen und Eisenbahn Gesellschaft. This mine has produced almost continuously since 1908, except during the two world wars, and the depression of 1932-1936. Owing to declining copper and lead prices, and the difficulty of finding suitable markets for the by-products, operations were completely suspended in 1940, the underground workings being allowed to flood. At that time, the Tsumeb Mine employed between 200 and 220 Europeans and 2,000 Africans. On an average, 150,000 tons of ore were mined, and 40,000 tons of selected ores exported annually. The main body is a pipe-like replacement in dolomite with a cross-sectional area of 1,500-2,000 square metres. The ore is a massive, coarsely crystalline aggregate, composed of varying proportions of argentiferous galena and chalcatite, with zinc-blende, pyrite, enargite, stibioluzonite and chalcopyrite. When the mine closed in 1940, it was producing copper matte (42 per cent Cu.), pig lead (98 per cent Pb.) and cadmium flue dust (36 per cent Cd.). High-grade zinc-low ore averaging 11 per cent Cu., 28 per cent Pb. and 12 per cent zinc, was exported for smelting. The oxide ores have been exhausted and the reserves consist largely of a complex variable mixture of the sulphides of copper, lead and zinc, together with cadmium, silver, and in some cases germanium and gallium.

In 1946, the Custodian of Enemy Property disposed of the mine and all its assets by tender, the property being acquired for over £1,000,000 by the Tsumeb Corporation, in which the Union Corporation and two American corporations are interested, the latter being the Magma Copper Co. of Arizona, and the American Metal Co. of New York. The management of the mine was entrusted to the Newmont Mining Company of America. It was estimated that dewatering alone would cost approximately £1,000,000. Initially, the ore is being sorted and sent overseas for treatment, but eventually a flotation unit will be installed.

At present, the bulk of the production from the Tsumeb Mine is in the form of lead and zinc concentrates, containing copper and lesser amounts of cadmium and silver, which are exported overseas for smelting. During the first six months of last year, base mineral production in South-West Africa included 115 tons of copper ore, 5,615 tons of copper contained in lead and zinc concentrates, 96 tons of galena and 42,974 tons of lead concentrates, 142 tons of zinc ore and 9,968 tons of zinc concentrates, and 360 tons of cadmium contained in lead and zinc concentrates. The bulk of these outputs were from the Tsumeb Mine.

COPPER AND LEAD

Copper ore is also produced by several small concerns close to the southern border, who sell hand-sorted ore to the O'Okiep Copper Company in the Union. In 1944, the Henderson Copper Mine and the Ubib Copper Mine were acquired by the Union Gold and Base Metal Corporation. These mines are situated in the Karibib district and had previously been worked. Their future prospects were reported to be very favourable. Lead has been produced in the past at Aiais in the Warmbad district, where further development has recently been done. In view of the high price of lead, production might be profitable in spite of the great distance of these deposits from railhead. Galena has also been recorded from various other parts of the territory and several deposits have previously been worked to a limited extent. In 1940, exports of pig lead from the territory totalled nearly 2,000 tons.

Cassiterite deposits occur over a large area around the Erongo Mountains and the Brandberg. In some deposits iron, columbium or tungsten is associated with the cassiterite, but concentrates averaging 70-73 per cent Sn. are normally obtained. The bulk of current production is from alluvial and eluvial deposits. As a rule, the cassiterite is patchy, while many of the occurrences are low-grade. Some deposits, however, have been profitably worked for long periods by small concerns. The opinion has been expressed that when the nature of the occurrences is more fully understood, a permanent tin industry might be established. During the first six months of last year, 100 tons of concentrates were produced.

IMPORTANT LITHIUM DEPOSITS

South-West Africa is an important source of lithium, the sole producer being the Jooste lithium mine, which has known reserves of lepidolite amounting to 50,000 tons and probably even larger reserves of petalite, both averaging 4 per cent LiO_2. These deposits have been described as the largest high-grade lithium deposits in the world. To the comparative freedom of the ores from iron and other undesirable constituents is ascribed the extended use of lithium in the glass and ceramic industries. During the first six months of last year, production included 109 tons of amblygonite and 3,378 tons of lepidolite, the bulk of the output being exported to the United States.

Deposits of vanadium ore have been opened up at Abenab and elsewhere, the territory being an important producer of this mineral. Vanadium ores are exported by the South-West Africa Co., Ltd., of Grootfontein, from its mines at Abenab and Baltika. In 1943, production of vanadium in South-West Africa reached the impressive total of 5,266 tons. After the war, it became evident that sales of concentrates could no longer be effected as quickly as the ore was produced. It was, therefore, decided to continue production at the most economical rate of output and store the concentrates in the territory until demand improved. In 1948, 324 tons of vanadium were produced. Various deposits of wolfram and scheelite have also been worked, production being suspended in 1945 when the price of tungsten became uneconomical. An output of five tons of scheelite is recorded for 1949.

Other minerals currently being produced in South-West Africa include beryllium, bismuth, graphite, rock salt, and tantalite/columbite. Of the territory's many other known minerals, those of potential importance include Iceland spar of the highest optical grade, high-grade fluorspar, a massive deposit of brown garnet, and extensive deposits of haematite and high-grade iron ores. Promising deposits of manganese are being actively investigated by the S.A. Minerals Corporation, and production has already started on a number of the corporation's claims.

South-West Africa is still only on the threshold of its development. Organized prospecting by large concerns may well lead to further mineral discoveries of great importance. Fresh capital flowing into the territory is enabling more efficient methods of mining to be introduced. As time goes on, improved transport facilities should reduce marketing costs and so bring an increasing number of deposits within the limits of payability. The tremendous increase in metal prices will give a renewed impetus to mining and prospecting, which should soon be reflected by a considerable expansion in the production of many minerals.

Diamond Cutting

The 25th Annual Report on the Diamond Industry for 1949, prepared from papers collected by the late Dr. Sidney H. Ball, by Messrs. W. F. Foshag and George Switzer, contains the following interesting facts and figures about diamond cutting:

U.S.A.—The number of employed cutters fluctuated throughout the year with the course of business. In the early part of the year cutting activities were at a high level, approximately 70 per cent of the war-time peak. Unsettled market outlook and various disturbing trade practices resulted in considerable later unemployment. The cost of cutting in the United States is substantially higher than in other diamond cutting centres.

BELGIUM.—During most of 1949 the Antwerp cutting industry was beset with many and serious difficulties. The industry which normally employs 17,000 workers began the year with serious unemployment. Sixty-three per cent of the 11,000 unionized workers were without work; 800 were employed part time. In February and March almost complete stagnation hit the industry. Unemployment in April hit 80 per cent and the situation reached crisis proportions. With the advent of revaluations of currencies in September, confidence was restored in the value of diamonds, leading to a considerable renewal of activity during October. December was noteworthy for the very great activity both in rough and polished.

The year ended with great activity in both rough and cut. Rough prices were very firm but stocks were very low. Total exports of cut diamonds from Belgium for 1949 totalled 244,165.87 carats valued at £7,950,812. The United States was the largest market, receiving 72 per cent of total exports.

THE NETHERLANDS.—During 1949 the Amsterdam industry was, on the whole, fairly satisfactory, with about 1,500 to 1,600 workers employed. A reaction in the middle of the year resulted from American anticipation of devaluation, but after devaluation demand increased, with some slight increase in employment, higher prices and rising imports to the United States, the Near East, Hong Kong and France. Before the war Amsterdam employed about 3,000 workers, but only 800 after liberation.

ISRAEL.—Many problems still beset the Israeli diamond cutting industry. The number of diamond cutters varied between 800 and 1,600 during the year, compared to a war-time peak of 5,000. From April to September no supplies of rough were available from the Syndicate and local polishers had to purchase from unofficial suppliers at prices five to ten per cent above those of the Syndicate. In October supplies from the Syndicate were resumed but not in amounts and quality to satisfy the industry. The Syndicate announced that only such establishments will be supplied as are, in the opinion of the local government, able to produce efficiently. The Israeli cutting industry worked principally on melée, the price of which was raised 15 per cent by the Syndicate. Export of diamonds from Israel during 1949 amounted to 69,641 carats, valued at £2,334,200, of which 85 per cent was shipped to the United States.

SOUTH AFRICA.—In 1949 sales by the Diamond Trading Company to South African cutters amounted to £3,899,416. At the end of the year there were 83 licensed cutters working 57 factories and employing 476 journeymen, 199 apprentices, 106 other Europeans and 109 non-Europeans; a total of 973 workers. The general market conditions at the end of the year were good and it was almost impossible to buy good quality white goods. A substantial expansion in the industry is anticipated.

GERMANY.—Stringent Belgian regulations made it unlawful to export rough diamonds to Germany. Nevertheless, rough from Belgium made its way into Germany and it is reported that much rough is still being provided by way of Israel. After cutting and polishing, the stones are thrown on the international market, though mainly invoiced as having been cut in Belgium or Israel. It is estimated that there are about 1,500 workers in Germany, about half of whom are employed.

ELSEWHERE.—In an effort to create a revival of the Cuban diamond cutting industry, the Government has extended to June, 1950, the benefits of certain tax exemptions on the industry. During the war as many as 5,000 cutters were employed, but almost no cutters are now occupied.

It is reported that authorization to set up an establishment for the cutting and polishing of imported diamonds is being sought by a 2,000,000 peseta concern in Madrid. Plans included 24 cutting and 15 polishing machines.

An extended summary of the Report on the Diamond Industry for 1949 by Messrs. Foshag and Switzer, appeared in our issues of January 5 and January 12, 1951, respectively.

U.S. Atomic Energy Plants

Mr. Gordon Dean, chairman of the U.S. Atomic Energy Commission, in a recent address reported by the Denver *Mining Record*, said in part:

On January 1, 1950, there had been invested in the physical plant of the atomic energy programme slightly more than two billion dollars. For this expenditure, the American people have acquired an integrated system of laboratories, plants and test facilities constituting probably the most complex industrial and scientific enterprise in the world. Geographically, these facilities extend from the Brookhaven National Laboratory on Long Island to the remote weapons test site at Eniwetok Atol in the Pacific Ocean. In size, they range from a small office of 300 square feet, in Boston, to the 400,000 acres of plutonium works at Hanford, Washington.

The total land area occupied by the installations of the A.E.C. comprises some 2,400 square miles. These holdings and leaseholds are located in 14 states and include the proving ground at Eniwetok.

I mentioned the figure of two billion as being the capital investment in plant since 1942. Of this amount, the Manhattan Engineering District, which preceded the Atomic Energy Commission, accounts for about one billion, 350 million; the Atomic Energy Commission for about 650 million. Under present and projected programmes since the first of the year our capital investment in plant and facilities will be measurably increased.

The Commission does not own any mining properties, though the basic raw material of the industry is the metal uranium derived from ores found in various parts of the world. The Commission purchases these ores from the private operators of mines.

Our policy, so far as getting ore into usable form is concerned, is simply this: Get it out of the ground and fabricated fast. If war should come to us, we want to have it in bombs. The material which we process for bombs also may be used as fuel for power-making machines—nuclear reactors which we now have in the early stages of development. If real guarantees of peace and disarmament are forthcoming, we are then well equipped to break our swords into ploughshares and turn these resources to peacetime uses.

The weapons' uses and the welfare uses depend on a science and a technology which is one seamless web. The pursuit of the two purposes cannot be separated without harm to the progress of both, and we are therefore responsible to the nation for advance in both fields.

REVIEWS

Cutting Oils.—*(Published by the Shell Petroleum Co., Ltd.)*

This booklet gives a brief but useful survey on the little publicized subject of cutting oils, and should prove to be of value to engineers. It is well illustrated.

World's Non-ferrous Smelters and Refineries, 1950.—*Edited by H. G. Cordero. Fourth Edition*, 1950, *London: Quin Press Ltd., 27, Albemarle Street, W.1. Pp.* 318 *Price 25s. net.*

The fourth edition of this reference book—the only book of its kind published in any country—contains information relating to hundreds of the world's non-ferrous smelting and refining plants. Wherever possible, details include authorized and issued capital, names of directors, description and location of plant, capacity, products, details of process, brands and analyses. A new section is devoted to metal smelting and refining processes. Not the least interesting part of this reference book is a survey of the U.S.S.R., containing a number of maps showing the location of works.

Pocket-book for Miners and Metallurgists.—*Compiled by Frederick Danvers Power. Fifth Edition (first Pitman Edition)*, 1950, *London: Sir Isaac Pitman & Sons, Ltd. Pp.x*+545; *Figs.* 83; 4½ *in.* x 6 *in. Price 25s. net.*

The author, twice president of the Australasian Institute of Mining and Metallurgy, first compiled this *vade mecum* some 60 years ago from notes and information he collected in the exercise of his profession. The present edition is, however, to all purposes an entirely new book, for the contents has been completely re-written to include modern development and practice. In addition to fundamental data needed by mining engineers and surveyors, the book gives details of modern mining techniques. The chapters on mathematics, chemistry, electricity and miscellaneous subjects will be appreciated by students and craftsmen, and the glossary of terms used in mining represents not the least valuable feature of this extremely useful pocket-book.

The Measure of Gold.—*By W. J. Busschau.* 1950, *Johannesburg: Central News Agency. Pp.* xi + 164. *Price* 12*s.* 6*d. net.*

When the author published his previous book, "The Theory of Gold Supply" (Oxford University Press, 1936), *The Economist* suggested that he should develop the other side of the gold equation—the future of the demand for gold. In this essay, Dr. Busschau has now met this challenge; it is an attempt to give an explanation of the rôle of gold as international money and contains important suggestions addressed to those responsible for international monetary policy. His *leitmotif* is indeed the call for a higher gold price. The page proofs of his book had been completed when the series of devaluations of the autumn of 1949 took place. In an addendum to the preface, the author points out that these devaluations represented "the first major step in the post-war revaluation of gold in terms of paper money . . . the substantial adjustments urged by this book have only begun, since it is only the miserable reserves held outside the United States which have as yet been revalued and the full process of revaluation requires a substantial upward valuation of the gold reserves of the United States in terms of the U.S. dollar." While the author holds the view that "much of the monetary theory accepted by students and businessmen in this 20th century has been pure superstition, and away from the progressive evolution over the centuries," he appears to have fallen a victim to superstition of a different kind. The question whether the advocated increase in the price of gold would be palatable to the U.S. authorities must remain an open one.

Catalogue of Books on Geology, Mineralogy and Mining.

We have just received from *H. K. Lewis & Co., Ltd.*, the well-known scientific booksellers, of 136, Gower Street, London, W.C.1, their 1951 catalogue of books of interest to both mining students and practical men. It contains sections on Metal Mining, Mineral Dressing, Coal Mining, and Petroleum. This, and any other catalogue or scientific subjects, will be sent post free on application to the above address.

P.O.A. Raw Materials Surveys

The Purchasing Officers' Association, Wardrobe Court, 146a, Queen Victoria Street, London, E.C.4, has recently published three booklets, viz.: "Coal" (No. 4), "Non-ferrous Metals" (No. 5) and "Manufactured Abrasives and Industrial Diamonds" (No. 6), covering the syllabus of its Final Examination subject, "Raw Materials (Economic and Geographical Survey)." These booklets provide valuable factual information, not only for the student, but for anyone interested in the study of world sources of supply of the main materials of industry.

How to Write Technical Books.—*By John Gloag.* 1950, *London: George Allen & Unwin, Ltd.; Pp.x*+159, 46 *illustrations in the text and four plates;* 5 *in.* x 7½ *in. Price* 12*s.* 6*d.*

The author, who is well-known for his books on industrial art and design, has performed a useful service by producing a guide to the writing of technical papers and books which will be of value not merely to technicians, but to practically anybody who has to write a book, or wants to do so. It contains advice on the preparation of material; paper, type and printing, blocks and illustrations; proofs and index, as well as a chapter on the relations between author and publisher.

Manual of Geology of India and Burma, 3rd Edition.—*By Sir Edward Pascoe.*

The first volume of the third edition of this valuable reference work by the late Sir Edward Pascoe, a former director of the Geological Survey of India, has just been published. The first of a series of four volumes, it gives a comprehensive survey of the geology of the Archaean and Purana rocks of India, Pakistan and Burma, as worked out by the officers of the Geological Survey of India and by unofficial workers during the past century. The rocks dealt with in this volume are the oldest in India, and the many problems relating to their structure, mineralogy and relative ages are discussed in detail. These rocks also contain the gold, iron ore, manganese ore, copper ore and mica deposits of India.

Nimonic Alloys

The Nimonic series of alloys forms the subject of an illustrated article in the *Nickel Bulletin*, Volume 23, No. 11. The part played by these important nickel-chromium alloys in the practical realization of the gas turbine is now well-known, and the tabular data provided are, therefore, of considerable interest. These cover the alloys available and the specifications to which they are produced, the physical and mechanical properties, tensile properties and creep characteristics. Further material on the Nimonic alloys will be found among the abstracts published on high-temperature materials. In addition, physical data on nickel-containing permanent-magnet alloys production and experience with spheroidal-graphite cast iron are among other abstracts contained in this issue.

Copies of these publications may be obtained free on application to the above address.

Machinery & Equipment

NIFE Safety Lamp

The NIFE safety lamp type G10, manufactured by Messrs. NIFE Batteries, Redditch, has been designed to provide a safe light in dangerous atmospheres. It carries the highest official certificate of approval for this purpose.

The lamp case is made throughout of stout gauge sheet steel, welded at all joints and heavily nickel plated. The battery is of the NIFE nickel cadmium alkaline type, as used in tens of thousands of miners' lamps throughout the world and which has been the basis of all portable lighting in H.M. Navy for nearly 30 years. It is made throughout of steel and will give years of trouble-free life even under the most arduous conditions. The lamp's weight is approximately 4 lb. and the dimensions are $2\frac{13}{16}$ in. x $4\frac{1}{4}$ in. x $5\frac{1}{2}$ in. (excluding the handle).

New "Planet" 18-ton Shunting Locomotive

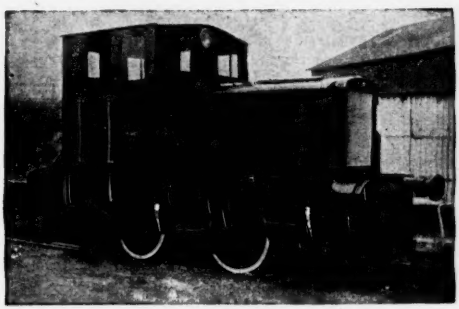
The makers of "Planet" Locomotives, F. C. Hibberd & Co., Ltd., Park Royal, London, N.W.10, have produced a new medium shunting locomotive which incorporates all the best-known features of design. In general, the design has taken into account all known difficulties of users of Diesel locomotives, including the scarcity of trained labour. A reduction in maintenance cost has been a main consideration in the design, together with accessibility to all parts.

The main features of this locomotive are:

Engine.—Dorman 4 DL.III, 120 m.m. bore and 180 m.m. stroke Diesel engine developing 77.5 b.p.h. at 1,200 r.p.m. having a fuel consumption of: 0.368-0.374 pints/b.h.p./hour: 0.391-0.395 lb. b.h.p./hour, using Shell Gas Oil of specific gravity 0.845.

Engine Mounting.—Silentbloc anti-vibration mountings ensure longer life and give the driver freedom from vibration.

Clutch.—No clutch plates to wear out as the Vulcan Sinclair Fluid Coupling needs little or no attention. Shock loads cannot be transmitted to the crankshaft nor can



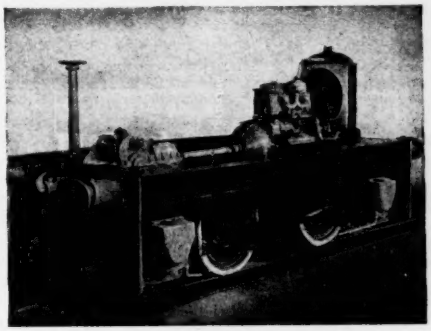
The SCW Model 18-ton "Planet" Diesel shunting locomotive, powered by a 77.5 b.h.p. Dorman engine

torsional vibration, if present at critical speeds, be extended to the gearbox through a fluid drive. A luxury on so small a locomotive, but definite saving in maintenance costs is assured.

Propeller Shaft.—From the gearbox to the engine, a high torque capacity Layrub type propeller shaft ensures cushioned transmission, having no lubrication problems, and silent operation.

Four-Speed Gear.—A user cannot be wrong in the selection of a gear change unit of the type which is fitted to 5,760 out of 7,004 buses operated by London Transport Executive. Manufactured by the Self-Changing Gear Co., Ltd., it ensures interchangeability of parts and efficiency in use. Gear changing is effected through compressed air control mechanism making for easy operation.

Chain Drive.—The use of Triplex and Duplex precision roller chains of Renold & Coventry manufacture ensures absolute efficiency of drive with a minimum of frictional losses. The safety factor has been increased by 50 per cent



View of the power unit and transmission of the 18-ton "Planet" Diesel shunting locomotive

over that employed by the company in previous designs which have proved satisfactory in service for 15 years.

Brake Gear.—Westinghouse equipment ensures absolute reliability in the production of compressed air, also the use and distribution of same. Compressor is in an accessible position on side of footplate and protected against rain.

Accessibility.—Cylinder heads and blocks can be removed through top of bonnet. Removable cab flooring ensures accessibility to air piping, Westinghouse fittings and gear, also reverse units. Engine or gearbox can be removed separately and by unskilled labour, as alignment is taken care of by Layrub propeller shaft. Batteries can be topped up or removed entirely without obstruction. Axlebox inspection cover and loose bottom half ensures quick inspection of journals. No awkward panels to remove for radiator repairs.

General dimensions of the locomotive are:

Length over buffers	18ft. 2in.
Width for 4ft. $8\frac{1}{2}$in. gauge ...	7ft. 10in.
Height over cab	10ft. 8in.

The tractive effort of the locomotive is:

In low gear	7,480lb.
Second gear	4,430lb.
Third gear	2,940lb.
Top gear	1,830lb.

with maximum speeds in those gears of 2.95, 5, 7.5 and 12 m.p.h. respectively.

The 18-ton locomotive has, therefore, an adhesive factor of 5.39-1, which ratio will avoid wheel slip and be of utmost value when braking loads.

A 5ft. 6in. gauge locomotive of this type has been completed for shipment to Pakistan and gave outstanding performance during trials on the sidings of a well-known brewery, where normal duties are carried out with "Planet" 150-h.p. 24-ton locomotives. The locomotive for trial purposes, was fitted with 4ft. $8\frac{1}{2}$in. gauge wheels and axles suitable for the 5ft. 6in. gauge frame.

Metals, Minerals and Alloys

Copper.—The Copper Institute figures for January give the U.S. output of crude as 87,109 s.tons (91,218 in December) and of refined as 110,144 s.tons (109,464). Domestic deliveries were considerably down at 108,128 s.tons (121,954) and stocks of refined improved to 54,883 s.tons (49,040). Statistics for other countries, omitting Russia, Japan, Australia, Norway, Sweden and Yugoslavia, were: crude 114,825 s.tons and refined 97,500 s.tons. Refined stocks were 146,837 s.tons (+ 6,918). The N.P.A. has announced the banning or limitation of copper use from April 1 on further additional products, bringing the total to over 250. On the other hand, the ban on the use of copper tubing for domestic water systems has been lifted. February copper sales in the U.S. at mid-February exceeded 92,000 s.tons with March bookings exceeding 21,000 s.tons. Commerce Secretary Mr. Sawyer stated that the U.S. supply would continue to be critically short and stockpiling is reported suspended till June 30. Trading in futures was resumed by the New York Commodity Exchange on Monday but as all transactions must be in strict compliance with the ceiling price regulations of the E.S.A., the present effect of the re-opening on price is not likely to be appreciable. A Chilean delegate is due to arrive in Washington shortly to discuss the question of higher price for Chilean output.

Lead.—In the United States consumers are still trying to enlarge their inventories before it is too late, but with consumption active March offerings are tight. U.S. stocks of lead at the end of January, in the works of smelters and refiners, were 28,894 s.tons of refined and 6,725 s.tons of antimonial lead, while consumers' stocks aggregated 94,606 s.tons. Including material in process and transit, total smelters' and refiners' stocks were 137,669 s.tons, or about 4,000 tons down on the month.

U.S. smelter receipts of lead concentrates last year were 506,232 s.tons of which 430,072 were domestic and 76,160 s.tons imports. Total receipts including scrap were 549,898 s.tons compared with 571,630 s.tons in 1949. January shipments to domestic consumers were 70,848 s.tons, export and drawback 3,156 s.tons and stockpiling deliveries 5,580 s.tons. Stocks at the end of the month were 10,212 s.tons as against 8,884 s.tons at the end of December. The St. Joseph Lead Co. will endeavour to complete its zinc and lead expansion programme originally designed for ten years, within three years. U.K. stocks of zinc at the end of 1950 were 36,256 tons and consumption in December 24,338 tons. Consumption for the whole of 1950 was 328,155 tons.

The Ministry of Supply has cut lead supplies retroactively from February 1 to 90 per cent of the average for January-September, 1950.

The Belgian output last year is reported at around 70,000 tonnes, about the same as 1949.

Tin.—The cessation of American buying, when the price in the Straits so far exceeded the United States' ceiling, brought about a heavy fall in the latter part of last week when cash fell from the record price of £1,615 to £1,437 10s. and was a not unexpected development, especially as it was accompanied by a report that America would cease stockpiling, which it might well do, at any rate, for a time, with the large tonnages already in stock. The stockpiling authorities are said to be unwilling to disclose their future policy and inclined to use this uncertainty to influence prices downwards. Anyway, the market improved on Monday but reacted to £1,477 10s. cash on Wednesday. Later prices are given in our Metal Correspondent's report below. In the United States the ceiling price is still 183c. per lb., equivalent to £1,464 per ton.

The urgency with which the possibility of tin substitution is being pursued in America is further illustrated by an announcement by the Metals Conservation Committee of the A.S. and R., that a group of solders showing savings of 50 per cent or more on normal types was being evolved. It is suggested that silver might be satisfactorily substituted in part for tin in solders. Imports of tin concentrates into the Straits in January totalled 1,266 tons—from Thailand 1,070 tons, from Burma 100 tons, from Indonesia 70 tons and from Indo-China 26 tons. The vexed question of insurance against riot and civil commotion in Malaya seems likely to be settled by a *force majeure* move by the Government to impose compulsory insurance payable by all businesses whose insurable assets exceed a certain figure if and when commercial insurance companies decide to cease covering losses caused by terrorist action. Until this happens the suggested scheme will be in suspense. At present what are called *ex gratia* payments are made to insurers in respect of riot and civil commotion clauses. Earlier endeavours to extract more money out of the tin and rubber companies having been successfully combated, it remains to be seen whether this new manoeuvre will be more successful.

Zinc.—As usual, United States' reports are that the demand for zinc exceeds supply and expectations that the restrictions on civilian consumption would soon reduce demand have not so far been realized, owing largely to the very low level of consumer stocks. Producers have now been notified that they may defer further deliveries of zinc to the stockpile until June 30, but on the other hand some manufacturers for defence orders are complaining that they cannot meet their requirements in the open market; moreover, fresh applications from Great Britain for second quarter deliveries are expected.

The zinc output in Belgium last year is computed at 182,000 tonnes or 10,000 tonnes more than in 1949. The Italian output is reported as 37,000 tonnes, a gain of 11,000 tonnes on the previous year.

Aluminium.—The Kaiser Aluminum and Chemical Corporation has announced plans for raising substantially its aluminium output. A new reduction plant rated at 100,000 s.tons a year is to be installed at New Orleans, operated with the company's own power plant using natural gas to generate electricity. This increases the Corporation's production plants to three, the others being at Spokane and Tacoma, in Washington State. The company will also expand its alumina plant at Baton Rouge from a capacity of 300,000 to 540,000 s.tons a year. Corresponding enlargements are also planned at the bauxite mines in Jamaica. Shareholders in Alcoa have approved an increase in the permitted indebtedness of the undertaking to a total of $500,000,000 from the present of $200,000,000. Alcoa's net income for 1950 is estimated at some $45,000,000 as compared with $24,818,000 in 1949. In Norway the Government with the aid of E.C.A. funds will finance a new aluminium plant at Sunndalsöra, in West Norway, designed for an output of from 40/50,000 tons a year, which should double the present output rate.

The Italian output last year was 36,000 tonnes as against 26,000 tons in 1949.

Antimony.—The U.K. price for antimony was advanced on Monday to £372 10s. for refined, £360 for 99 per cent and £275 per ton for crude. In the United States the price remains 42-43c. per lb. f.o.b. Laredo.

Chrome.—Southern Rhodesian production in November was 29,449 s.tons, bringing the total for the 11 months to 292,804 s.tons compared with 237,455 s.tons for the same period of 1949.

Cobalt.—The production of cobalt in French Morocco was doubled last year to a total of 3,509 tonnes of concentrates. United States is reported to have contracted for shipments of 7,200 tonnes in the current year.

Quicksilver.—Buyers' resistance to the huge quicksilver prices in the United States have induced some reaction in the quicksilver price which was reported at $216/220 at the end of last week. Here prices are unchanged.

Sulphur.—The difficulties now being experienced in Great Britain owing to the reduction of American supplies, are being experienced also on the Continent. In Belgium, which also depends entirely on the United States, the allocation of sulphur this year has been cut to 40,000 tonnes as compared with a consumption of about double that amount.

Tungsten.—The situation in the Portuguese wolfram market remains obscure with exporters asking Esc.130/132 per kilo ex warehouse, or Esc.168/170 f.o.b. (say 646/653s.). Offers as high as Esc. 128 were reported but were refused. The London price has continued to advance, the last price we have is 620s. to 630s. per unit c.i.f. Trade talks between the British Government and Portugal are being held in London this week and no doubt wolfram supplies will figure prominently in the exchanges. Placer Development has announced that its subsidiary, Canadian Exploration, has concluded a deal with the Canadian Government by which it secures the remaining tungsten or reserves within the area originally developed by the Canadian Government, including the Emerald tungsten and lead-zinc mine near Salmo, B.C., for a cash consideration of $328,000. The company will rehabilitate the mine and install a mill.

The King Island Scheelite Co. has contracted to supply concentrates to the value of £A7,000,000 to the United States and British Governments. Deliveries to be within seven years to the United States and five years to Britain.

Gold.—The Westralian gold output in January is officially reported as 51,186 f.oz.

The London Metal Market

(From Our Metal Exchange Correspondent)

The main feature of the last five days' trading has been the increase in the backwardation, and this has been brought about by the consistent demand for prompt metal by consumers and the lack of corresponding offerings from producers' agents. The stocks of tin in official warehouses are also decreasing, and as the Eastern price has remained above the London parity, it is feared that these will be further diminished in the near future.

In the United States the confusion arising from the freeze of prices has not yet been resolved, although the Commodity Market was allowed to re-open on Monday, the 19th, with apparently a maximum price for all deliveries of $1.80 per lb., and all positions are coming up to that level as fast as is allowed by the regulation governing maximum advances in a day's trading. The *American Metal Market* has proposed a price ceiling of $1.25 per lb. for tin with a Government buying level of $1.21, but in London it is not considered that this is a practical suggestion as the figure is so very much below the existing quotations, and it is not understood how such a step would enable American consumers and the stockpile authorities to purchase any metal from outside their own country.

In Singapore it is understood that offerings are now becoming more normal, and it is expected that until the price drops below the American parity the general tendency will be downward rather than upward.

On Thursday the official close on the tin market was: Settlement Price £1,485. Cash Buyers £1,480, Sellers £1,490. Three Months' Buyers £1,415, Sellers £1,420. In the afternoon the market was steady. Turnover for the day was 70 tons. Approximate turnover for the week was 690 tons.

The Eastern price on Thursday was equivalent to £1,461 5s. per ton c.i.f. Europe.

Iron and Steel

At the iron and steel works, the changes consequent upon the transition to nationalization have been so slight as to be imperceptible, but the restriction of production owing to the shortage of materials is progressive. Haematite production is hampered by the reduced intake of high-grade foreign ores; steel works are badly in need of more scrap and, indeed, cannot sustain ingot outputs without it, whilst all operations are also overshadowed by the coal crisis. Nor does this complete the last of difficulties under which the steel plants are operating. There are more complaints this week that wagon shortages are seriously retarding the normal distribution of steel to home consumers. Big tonnages of steel plates, sections, etc., which are awaiting transport, are causing serious congestion at the stock banks.

The trading position is wholly satisfactory. Orders already in hand assure full employment for long periods ahead and on the part of producers there is a general reluctance to enter into further commitments until some of the existing arrears has been overtaken. On the other hand, the anxiety of steel users to secure prompt fulfilment of their specifications, has been increased by the intimation of the forthcoming price advance. In all contracts the buyer of iron and steel products is bound to pay the price ruling on the date of delivery. Hence the anxiety to beat the market. The new price list, issued on Wednesday under the authority of the Minister of Supply, shows an increase of 7s. 6d. for basic pig iron and corresponding increases in other specifications.

Steel production is on a more satisfactory scale than that of pig iron. Blast furnace outputs are on a reduced scale owing to the fresh cuts and, of course, there has been a rise of 6s. 3d. per ton in the price of blast furnace coke, which must quickly be translated into higher prices for pig iron. Foundrymen find it difficult to secure deliveries against current licences and are refused allocations if they have more than four weeks' supply in hand. Few establishments, however, are in that happy position.

The scarcity of pig iron has intensified the demand for all classes of iron and steel scrap. Last year scrap imports totalled about 2,000,000 tons and present expectations are that the figure will be cut by about 50 per cent in the current year. It will be a difficult task to increase the deliveries of house scrap by a corresponding figure, but the effort to do so lacks nothing in vigour and determination.

British steel makers will also watch with interest the outcome of the experimental production of new alloy steels in the U.S.A., the purpose of which is to conserve nickel, chromium and molybdenum, all of which are in short supply. By substituting boron it is claimed that a satisfactory alloy steel can be produced with a 50 per cent saving in the use of other alloying elements. Another new U.S. process to aid the steel industry is the extraction of sulphur from iron pyrites.

Tinplate.—The Ministry of Transport announced on Tuesday that the maximum price of tinplate and sheet bars would be raised from £16 16s. 6d. to £17 6s. 6d. as from February 21, mainly to cover the recent rise of 4s. 2d. per ton in the price of coal. There is no indication of any abatement in the demand, but stocks of scrap are precariously low and it is feared that failing an improvement in supply some furnaces and mills may have to stop operating.

Coal

The output of deep-mined coal is apparently beginning to reflect the improving trend of the industry's manpower. By the week ended February 10 workers on the colliery books had increased since the beginning of the year from

688,600 to 697,900 and those employed at the coalface from 285,100 to 286,800; the overall average number of shifts worked per week per wage earner had been raised from about 4.75 to 5.1, probably mainly because of the extended operation of the Saturday morning shift, and the Ministry of Fuel's returns for last week give, at 4,343,500 tons, the best pit production to date this year.

The actual supply position is better than is represented in the above analysis which does not allow for imports, arrivals of which to date total 368,100 tons; it could also be considerably improved by the reduction in the rate of absenteeism of 15.02 per cent which compares with last year's average of 11.96 per cent and the 1937-38 average of less than 7 per cent in a longer working week in a less efficiently equipped industry.

Consumption in the week ended February 10 totalled 4,688,000 tons and supplies 4,584,000 tons, and distributed stocks 9,967,000 tons.

FEBRUARY 22 PRICES

COPPER

Electrolytic	£202 0 0 d/d

TIN

(See Metal Notes above for Thursday's Metal Exchange prices

LEAD

Soft foreign, duty paid	£136 0 0 d/d
Soft empire, including secondary lead ...	£136 0 0 d/d
English lead	£137 10 0 d/d
Remelted	£126 0 0 d/d

ZINC

G.O.B. spelter, foreign, duty paid ...	£151 0 0 d/d
G.O.B. spelter, domestic	£151 0 0 d/d
Electrolytic and refined zinc ...	£155 0 0 d/d
Hard	£135 0 0 ex depot
Remelted	£145 0 0 ex depot

ANTIMONY

English (99%) delivered, 10 cwt. and over	£360 per ton
Crude, 10 cwt. and over ...	£275 per ton

NICKEL

99.5% (home trade) ...	£406 per ton

OTHER METALS

Aluminium, £124 per ton.	Palladium (scrap), £8 oz
Bismuth, 22s. 6d. lb.	Platinum, £27/£33 5s. nom.
Cadmium, 17s. 3d./18s. lb.	Rhodium, £45 oz.
Chromium, 5s. 3d. lb.	Ruthenium, £30 oz.
Cobalt, 15s. 6d. lb.	Quicksilver, £73 10s. nom, ex-warehouse.
Gold, 248s. f.oz.	Selenium, 25s. nom. per lb.
Iridium, £65 oz. nom.	Silver (bar), 78¼d. f.oz. spot and forward.
Magnesium, 1s. 6d. - 2s. lb. according to quantity.	Tellurium, 14s. 4d. lb.
Osmiridium, £35 oz. nom.	
Osmium, £70 oz. nom.	
Palladium, £8 10s. oz.	

ORES, ALLOYS, ETC.

Bismuth	60% 13s. per lb. c.i.f. 50% 12s.
Chrome Ore –	
Rhodesian Metallurgical (lumpy)	£11 per ton c.i.f.
" " (concentrates)	£11 per ton c.i.f.
" " Refractory	£10 12s. per ton c.i.f.
Baluchistan Metallurgical ...	£11 11s. per ton c.i.f.
Magnesite, ground calcined ...	£26 - £27 d/d
Magnesite, Raw	£10 - £11 d/d
Manganese, Best Indian ...	(Nominal)
Molybdenite (85% basis) ...	(Nominal)
Wolfram (65%), U.K. ..	620s./630s. nom. c.i.f.
Tungsten Metal Powder (for steel manufacture) ...	38s. nom. per lb. (home)
Ferro-tungsten	36s. nom. per lb. (home)
Carbide, 4-cwt. lots	£30 18s. 9d. per ton
Ferro-manganese, home ...	£32 3s. 7d. per ton
Ferro-manganese, export ...	Nom.
Brass Wire	2s. 2¾d.
Brass Tubes, solid drawn ...	1s. 9¾d.

Mining Men and Matters

Mr. P. W. Farley has been appointed a director of Derbyshire Stone.

The death has been announced of **Mr. H. G. Fleming,** one of the directors of Goldfields Rhodesian Development and Kononga Gold Mines.

Dr. Mauricio Hochschild celebrated his 70th birthday on Saturday of last week.

Mr. C. S. McLean has been appointed deputy chairman and technical director of General Mining and Finance Corporation, and as a consequence he has resigned from his position of consulting engineer.

Mr. R. B. Woakes, A.R.S.M., M.I.M.M., having relinquished his position on the board of Esperanza Copper & Sulphur Co., has been appointed consulting engineer to the company.

Sir John Cass College, Jewry Street, Aldgate, E.C.3, are now accepting applications for enrolment for the academic year 1951/52.

The North of England Institute of Mining and Mechanical Engineers have announced that the annual examinations for certificated studentship in mining engineering (vocational subjects) and mechanical engineering (vocational subjects), will be held in the King's Hall, King's College, Barras Bridge, Newcastle-upon-Tyne, 1, on Thursday, April 19, 1951, at 10 a.m.

Mond Nickel Fellowships.—The Mond Nickel Fellowships Committee now invites applications for five Fellowships of average value of £750 each for 1951. Fellowships will be awarded to selected candidates of British nationality with degree or equivalent qualifications, to enable them to obtain wider experience and additional training in industrial establishments, at home or abroad, to make them more suitable for future employment in senior technical and administrative positions in British Metallurgical Industries. Each Fellowship will cover one full working year. Applicants will be required to state details of the programme they wish to carry out. Particulars and form of application are available from: The Secretary, Mond Nickel Fellowships Committee, 4, Grosvenor Gardens, London, S.W.1. Completed application forms are required by June 1, 1951.

OBITUARY

Dr. FRANCIS A. THOMPSON

Dr. Francis A. Thompson, former president of the Montana School of Mines and director of the Montana Bureau of Mines and Geology, died in Spokane on January 11, at the age of 71. Born in London, England, December 21, 1879, Dr. Thompson went to British Columbia in 1886. He was attracted very early in life to the mining engineering profession and gained practical experience in the mining camps in Western United States before entering the Colorado School of Mines where he received his mining engineering degree in 1904. Later, he attended the Royal School of Mines in London and Ecole de Mines, in Paris. In 1914 he received a degree as Master of Science in the Colorado School of Mines, and in the summer of 1950 the Colorado Institution conferred upon him a medal of honour as a distinguished graduate. During his lifetime, Dr. Thompson was Dean of the Faculty of Mining at Washington State College, Dean of the School of Mines at the University Montana School of Mines, a position which he held until he retired, due to poor health, on September 15, 1950.

Business Items

The death has been announced of **Sir Francis Joseph,** one of the directors of Blaw Knox.

Mr. A. H. Campbell has been elected a director of Hilger and Watts in place of Mr. R. H. Watts, resigned.

The death has been announced of **Mr. O. Wans,** one of the directors of Ruston and Hornsby.

Mr. Adam Wilson, who was chairman of the Explosives Division, now Nobel Division, of Imperial Chemical Industries, Ltd., from 1941 until his retirement in 1945, died suddenly in Edinburgh on February 15.

George Cohen Sons & Co. have announced that the raw materials section of their Newcastle branch will be transferred to Coborn Works, Hebburn-on-Tyne. Telephone: Hebburn 32331. The machinery section of the Newcastle branch will Tyne, 1. Telephone: Newcastle 23313.

British Controlled Oilfields and **Trinidad Petroleum Development** have jointly announced that their registered office is now at Kings House, 36/37, King Street, Cheapside, London, E.C.2 Tel.: MONarch 0911.

The Mining Markets

(By Our Stock Exchange Correspondent)

The volume of business carried out this week has remained at a high level, but during the last few days it has shown signs of a definite decline. Gilts have been a weak market with some selling by small holders. The new British Steel Stock was launched during this period taking the form of a 3 per cent loan dated 1979/81. Dealings started at a discount of 2 per cent. The present inflationary tendency has caused a certain amount of suspicion of fixed interest securities in the minds of investors.

Kaffirs have been patchy with a generally easier tendency. Anglo-American fell away 1s. 3d. on cessation of French buying. Consolidated Mines Selection, however, changed hands at over 40s. on the increased dividend. The company is paying 15 per cent plus a 10 per cent bonus against a total of 21¼ per cent last year. Profits are up from £220,207 to £305,795. Van Dyk also improved on hopes of favourable developments from No. 5 shaft. The big event of the week was the announcement of a proposed merger between Rand Selection and S.A. Towns. The board of Rand Selection states that the object is to increase the group's interest in the O.F.S. field. S.A. Towns shareholders will be offered one Rand Selection share for every two held. They will also receive the S.A. Towns dividend payable for 1950 and have the right to participate in any distribution made by Rand Selection for the year ending September 30, 1951. The board of Rand Selection announces that it hopes to maintain the present dividend rate of 2s. per share on the increased capital, and expresses the view that this should increase as the O.F.S. mines come into production.

Another point of interest for Rand shareholders is that all mines on the Witwatersrand have been granted permission by the South African Government to mill ore for 24 hours on Sundays. This is a temporary measure to offset the recent cut in power supplies.

The lower grade Rhodesian gold mines have been a neglected and dwindling market for some months. Some light is thrown on this by a report emanating from the Cape which quotes a member of the Executive of the Rhodesian Chamber of Mines. He advocates representations to the Bank of England to reduce from six months to one month the period for termination of the gold buying agreement. The reason for the proposed short termination is given as "the parlous state of some of our low grade mines." Rumour goes on to suggest that a well known firm of metal dealers is prepared to take Rhodesia's whole gold output for manufacturing purposes against payment in dollars. This would presumably be at the premium price.

Oil shares met a certain amount of profit-taking after their recent rise. Anglo-Iranian continue to be very sensitive to changes in the international situation, and for this reason the shares recorded a substantial fall during the week. The December output figures broke all records, being 2,945,000 tons. The previous highest figure was 2,804,000 tons in August, 1950. These phenomenal returns again underline the immense strength of the company. The present market price of £5¾ for the £1 share compares with the level of £9¼ reached in 1949, and with much higher market estimates of the assets value of the undertaking.

The continued shortage of base metals and the strong demands for stockpiling and industry led to further selective buying of tin, lead/zinc and copper shares. Among Far Eastern issues however, Kepong Dredging eased following news that the dredge had been stopped for a probable period of six weeks owing to exceptional rains.

FINANCE	Price Feb. 21	+ or − on week
African & European	3	−2/6
Anglo American Corpn.	8½	−
Anglo-French	25/-	−3/1½
Anglo Transvaal Consol.	42/6	+2/6
Camp Bird	15/-	
Central Mining (£1 shrs.)	46/10½	
Consolidated Goldfield's	2	
Consol. Mines Selection	40/-	+7½d
East Rand Consols	4/1½	−4½d
General Mining	16	−
H.E. Prop.	38/9	
Henderson's Transvaal	10/6	−3d
Johnnies	3	−
Rand Mines	7½	
Rand Selection	40/7½	−1/3
Union Corporation	12	−
Vereeniging Estates	6	
Writs	35/3	−3d
West Wits.	2	
RAND GOLD		
Blyvoors	52/-	−6d
Brakpan	22/10½	+1½d
City Deep	3	
Consol. Main Reef	2	
Crown	5	
Daggas	3	
Dominion Reefs	2/3	−3d
Doornfontein	32/3	−10½d
Durban Deep	4	
E. Daggas	28/1½	−1/3
E. Geduld (4/- units)	2½	−
E. Rand Props.	3	
Geduld	7	
Grootvlei	41/10½	
Libanon	18/6	−1/-
Luipaards Vlei	24/3	
Marievale	22/6	−3d
Modderfontein B	6/3	
Modderfontein East	2	
New Kleinfontein	33/1½	+7½d
New Pioneer	21/-	−1/6
Randfontein	20/9	−9d
Robinson Deep	17/9	
Rose Deep	41/10½	+7½d
Simmer & Jack	8/1½	
Springs	13/-	−3d
Sub Nigel	3	
Van Dyk	19/-	−9d
Venterspost	31/10½	−7½d
Vlakfontein	22/-	−3d
Vogelstruisbult	27/-	9d
West Driefontein	5	−1
W. Rand Consolidated	47/6	−7½d
Western Reefs	40/-	

O.F.S.	Price Feb. 21	+ or − on week
Alpha F.S.A.	13/6	−9d
Blinkpoort	25/-	−1/10½
Central Mining F.S.	5/7½	−4½d
Freddies	16/3	−1/3
Freddies N.	9/6	−3d
Freddies S.	11/-	−3d
F.S. Geduld	3	−½
Geoffries	18/-	−1/-
Harmony	25/-	−2/-
Lyttelton Estates	10/9	−6d
Middle Wits.	21/6	−9d
Ofsits	2	−1/10½
President Brand	25/7½	
President Steyn	18/6	−3d
St. Helena	36/10½	−1/3
U.F.S.C. & G.	11/-	−1/6
Virginia Deb.	72	
Virginia Ord.	14/6	
Welkom	45/7½	+7½d
Western Holdings	3	−
WEST AFRICAN GOLD		
Amalgamated Banket	2/-	−1½d
Ariston	7/-	−6d
Ashanti	30/-	−1/-
Bibiani	11/4½	−4½d
Bremang	3/6	−1½d
G.C. Main Reef	3/7½	−3d
G.C. Selection Trust	9/-	−6d
Konongo	2/1½	−1½d
Kwabu	4/6	−3d
London & African Mng.	1/6	
Lyndhurst Deep	1/1½	
Marlu	2/1½	−1½d
Nanwa	1/1½	
Taquah & Abosso	8/3	−9d
AUSTRALIAN GOLD		
Boulder Perseverance	4/9	
Gold Mines of Kalgoorlie	16/3	−3d
Great Boulder Prop.	7/6	
Great Western Consol.	1/6	
Lake View and Star	22/6	
Mount Morgan	22/6	−6d
North Kalgurli	19/6	−3d
Paringa	1/-	+1½d
Sons of Gwalia	15/-	
South Kalgurli	10/7½	+1½d
Western Mining	7/9	−3d
Wiluna	11/3	+1½d
MISCELLANEOUS GOLD		
Cam and Motor	34/4½	−7½d
Champion Reef	12/6	+1/-
Falcon Mines	10/6	
Globe & Phoenix	24/9	−9d

MISCELLANEOUS GOLD (contd	Price Feb. 21	+ or − on week
G.F. Rhodesian	8/10½	−1½d
London & Rhodesian	5/9	
Motapa	3/9	
Mysore	6/7½	
New Guinea	1/1½	+1½d
Nundydroog	8/3	+3d
Ooregum	3/7½	−3d
Oroville	12/-	+7½d
St. John d'El Rey	38/3	+1/3
Zams	37/-xd	
DIAMONDS		
Anglo American Inv.	3½	
Casts	37/-	+9d
Cons. Diam. of S.W.A.	3½	
De Beers Defd. Bearer	58/6	+1/-
De Beers Pfd. Bearer	18½	+½
COPPER		
Chartered	71/6	
Indian Copper	5/-	
Messina	113/9	+2/6
Nchanga	6	+
Rhod. Anglo-American	59/7½	+1½d
Rhodesian Selection	37/4½	−1½d
Rhokana	21	−
Rio Tinto	24½	+½
Roan Antelope	20/-	−6d
Selection Trust	47/3	−3d
Tanks	46/6	−2/9
Tharsis Sulphur Br.	57/6	+2/6
TIN (Eastern)		
Anglo-Burma	5/3	+6d
Ayer Hitam	25/6	+6d
Bangrin	35/-	+1/3
Gopeng	15/9xd	+9d
Hongkong	15/4½	+1½d
Ipoh	35/-	−7½d
Kamunting	12/1½xd	+6d
Kepong Dredging	14/3	−6d
Kinta Tin Mines	17/3	−3d
Kramat Pulai	5/-	
Malayan Dredging	26/-	+1/6
Pahang	17/4½	+1/7½
Pengkalen	11/6	
Petaling	13/3	+1/-
Rambutan	21/-	−3d
Siamese Tin	22/6	+1/3
Southern Kinta	15/-xd	
S. Malayan	30/-	+6d
S. Tronoh	25/3	
Sungei Kinta	20/-	+2/6
Tekka Taiping	12/3	−3d
Tronoh	32/6	+6d

TIN (Nigerian and Miscellaneous)	Price Feb. 21	+ or − on week
Amalgamated Tin	12/10½	−4½d
Beralt Tin	27/6	+9d
Bisichi	4/7½	+1½d
British Tin Inv.	18/3	+1½d
Ex-Lands Nigeria	8/1½	−3d
Geevor Tin	19/-xd	−6d
Gold & Base Metal	4/-	−3d
Jantar Nigeria	8/7½	−1½d
Jos Tin Area	10/9xd	−1/-
Kaduna Prospectors	6/6	−3d
Kaduna Syndicate	14/3	+6d
London Tin	5/4½	
Ribon Valley	1/4½	
United Tin	2/4½	+1½d
SILVER, LEAD, ZINC		
Broken Hill South	56/-	+1/-
Burma Corporation	4/-	−3d
Consol. Zinc	34/6	+6d
Lake George	28/-	+1/3
Wiluna Trust	8/1½	
Mount Isa	40/-	+1/3
New Broken Hill	30/7½	−10½d
North Broken Hill	73/6	−1/6
Rhodesian Broken Hill	21/1½	−3d
San Francisco Mines	56/10½	+7½d
Trepca	3/4½	−3d
MISCELLANEOUS		
BASE METALS & COAL		
Amal. Collieries of S.A.	3	+
Associated Manganese	77/3	−1/-
Chinese Engineering	2/6	
C.P. Manganese	58/-	+3d
Natal Navigation	5	−1
Wankie	21/10½	−3d
Witbank Colliery	4½	+½
CANADIAN MINES		
Dome	$33½	+2½
Hudson Bay Mining	$122	
International Nickel	$75	−2½
Mining Corpn. of Canada	£6	−
Noranda	$160	
Quemont	£10	−1
OIL		
Anglo-Iranian	5	−
Apex	45/7½	−7½d
Attock	26/3	+1/3
Burmah	60/-	−3/9
Canadian Eagle Bearer	34/-	−1/-
Mexican Eagle	25/1½	−1½d
Shell	4½	
Trinidad Leasehold	27/3	−9d
T.P.D.	30/3	−1/9
Ultramar	30/7½	−7½d

Company News & Views

Messina's First Report from the Union

Messina (Transvaal) Development Company, which was registered in London on January 30, 1905, was one of the first companies to transfer its seat of control to the Union in order to escape heavy U.K. taxation.

The report and accounts of the company, now published, covers the eight-month period from the company's incorporation in South Africa until September 30 last, and reveal that net profit amounted to £662,672 after taxation liabilities of £182,000 had been met. Out of these net earnings £250,000 was transferred to general reserve, a dividend of 8s. per unit of stock or 240 per cent per annum was paid, leaving the carry forward at £12,672.

Ore reserves at September 30, 1950, were estimated at 3,671,240 l.tons assaying 2.07 per cent copper and capital expenditure during the period under review amounted to £83,434.

Falcon Mines and Dalny's Development

With the erection of a small pilot plant at the Dalny Mine to treat payable ore from development until such time as the permanent reduction plant, which will have an initial milling capacity of 12,000 tons of ore per month, has been completed, a further step has been taken towards bringing the mine into the list of Rhodesian gold producers. In the meantime, Falcon Mines is largely dependent on the revenue it receives from its two other operating mines, the Sunace and Bay Horse.

For the year ended September 30, 1950, tonnage milled at Sunace Mine amounted to 23,950 tons compared with 23,700 tons for the previous twelve months. Yield per ton at 6.46 dwt. against 7.88 dwt. was lower, and working costs showed a small increase of 1s. 1d. to 42s. 3d. Working profit was lower at £45,379 against £53,324, although ore reserves showed an appreciable increase to 68,000 tons compared with 49,500 tons. Footage sampled amounted to 2,800 ft. of which 1,395 ft. were payable, averaging 9.8 dwt. over a reef width of 27 in. Capital expenditure for the year amounted to £1,820, compared with £3,651 previously.

At the Bay Horse Mine tonnage milled during the period under review amounted to 9,020 tons against 9,200 tons for the previous twelve months. Yield per ton was fractionally lower at 4.03 dwt. against 4.50 dwt., and working costs per ton were 8d. higher at 35s. 8d. Working profit increased to £6,687 against £4,986, and ore reserves were higher by 1,700 tons at 22,300 tons, as was the grade which rose to 5.4 dwt. over 42 in. compared with 5.2 dwt. over 43 in. Footage sampled amounted to 890, of which 400 ft. were payable, averaging 6.7 dwt. over a reef width of 37 in. Capital expenditure for the year amounted to £25.

At the Dalny Mine, the Rix vertical shaft was sunk on the Dalny section 183 ft. to a depth of 872 ft., and another 109 ft. was accomplished on and below the Eighth level. On the Turk's head section the No. 2 vertical shaft was sunk to a depth of 190 ft. Total footage advanced on the Dalny, Turkois, Brancepath and Turk's Head sections amounted to 9,180 ft. compared with 11,897 ft. in 1949. Footage sampled totalled 5,952 ft. of which 3,205 ft. proved payable averaging 5.7 dwt. over a reef width of 65 in. Ore reserves showed a substantial increase, rising from 341,000 tons to 455,000 tons, the grade remaining unchanged at 4.2 dwt., although the width decreased 8 in. to 103 in. Expenditure for the year amounted to £139,280 (£94,191) of which £47,944 was incurred in connection with shaft sinking and equipment, and development, the remainder being spread over buildings, machinery, plant, etc.

The profit and loss account for the year ended September 30, 1950, of Falcon Mines showed gross revenue slightly down at £61,027 compared with £62,128 in 1949. General expenses were higher, and net profit worked out at £51,764 against £55,136 previously. From the £138,537 (£136,773) available, £50,000 (same) was transferred to general reserve, £25,000 was written off shareholdings in other companies and the balance, £63,537, was carried forward. During March, 1950, the company issued 778,119 shares to shareholders at 7s. per share in the ratio of three new for every four held. Consequently Falcon's issued capital was increased to £453,903 (£259,373) and the share premium account to £266,998. Expenses in connection with this issue which amounted to £7,968 was deducted from the share premium, thus leaving a balance on that account of £259,930.

Much interest centres round the company's M'Tuga copper property of 600 claims (510 claims were pegged during the year under review), covering a distance of about ten miles along the strike. This property is situated in the Lunsenfwa district, about 50 miles from Broken Hill in Northern Rhodesia, and it is hoped that the chairman, Mr. E. B. Papenfus, will give some information concerning the potentialities of the M'Tuga property at the meeting to be held in Bulawayo, Southern Rhodesia, on March 8 next.

Oroville Dredging Raises Dividend

Since its formation in 1909 to acquire alluvial gold dredging areas in California and Columbia, the Oroville Dredging Co. has successfully expanded its activities. At present it acts as a holding company with its chief interests in the Pato Mines (Columbia) Ltd., the capital of which it controls to the extent of 99.9 per cent; 35.93 per cent of the total issued capital of Pato Consolidated Gold Dredging; 41 per cent share interest in Asnazu Gold Dredging; 59,130 $5 shares in Bulolo Gold Dredging, which operates in New Guinea, although the company is incorporated in Canada, and an interest in Golden Queen Mining Co. and other concerns.

For the year ending September 30, 1950, the consolidated profit and loss account of Oroville Dredging and its subsidiary, the Pato Mines (Columbia) Ltd., show the benefits following from devaluation, which resulted in higher sterling revenue from Canadian and American dividends, and to a lesser extent from a credit to taxation account of approximately £15,000 in respect of losses previously provided for and brought forward from earlier years. The increase in revenue from dividends on investments from £95,014 to £133,947 accounted for the higher gross revenue which, at £135,631 compared favourably with the £100,513 in 1949. Expenses rose slightly, £11,659 against £10,803, giving a net profit before taxation of £123,972 against £89,710. Taxation was, of course, higher and after deducting the £55,850 required, net profit available worked out at £68,088 to which was added £115,303 brought in, making £183,391 available. To take care of possible market fluctuations, the company decided to allocate £25,000, with which to build up an investment reserve. A dividend of 31¼ per cent (25 per cent) absorbed £42,969, and the remainder, £115,422 was carried forward.

Shareholders will recall that in 1949 the Bulolo Co. was invited to join the Australian Government in forming a new company to manufacture plywood in New Guinea. In this year's address to shareholders the chairman, Sir Joseph Ball, states that although preliminary tests were satisfactory in every way, the change of Government in Australia has caused delay. However, the matter is now being followed up with the present Government, and the next stage is awaited with interest. Referring to the current year, Sir Joseph Ball said that subject to factors beyond control, revenue should be maintained at a satisfactory level.

Petaling Tin Makes Low-grade Ground Pay

The profit and loss account of Petaling Tin for the year ended October 31, 1950, showed that gross revenue amounted to £553,584 compared with £592,544 in 1949. Lower earnings were largely the result of the low-grade ground treated during the year, which was in fact forecast in the general manager's report for 1949. This decrease in the recovery per cu. yd. by 0.27 lb. to 0.52 lb. per cu. yd. accounted for the relative decline in tin ore recovered to 1,874 tons compared with 2,210 tons in 1949 and also affected production costs, which rose by almost £50 to £126 4s. 10d. per ton, although this was more than offset by the increase in the average price received per ton which advanced by approximately £68 to £405 12s. 5d. per ton.

After deducting all expenses, including £22,802 (£13,860) for property redemption, £17,534 (£5,389) for depreciation and £81,667 (£113,167) for taxation, net profit worked out at £376,535 against £436,516 previously. To this net figure was added £133,012 brought in, making £509,547 available. Interim dividends amounting to 60 per cent were paid during the year, which absorbed £123,200, and after transferring £175,000 (£233,333) to general reserve, there remained a balance at the company's fiscal year end of £211,347.

Since the close of the year, however, the issued capital of the company was increased from £256,667 to £513,333 by the payment of a special capital bonus of £256,667, and a final dividend of 25 per cent, less tax, on the increased capital absorbed £89,833, leaving a balance of £121,514 to be carried forward compared with £133,489 previously.

During the year the company exercised an option over 538 acres of the property of Seaport (Selangor) Rubber Estate, which area is subject to conversion to mining title (for which the rubber company has already made an application to the Government). The area has been prospected and although it is of low grade and involves the dismantling, transfer and re-erection of the No. 5 dredge, it is considered that the ground will prove useful, for little remains to be worked by the No. 5 dredge in the company's Puchong section.

The general managers, Osborne & Chappel, in their report, state that prospects for the current year are favourable, but until an unrestricted supply of power becomes available, little improvement in No. 6 dredge running time can be expected. During the eight months in which No. 6 dredge operated during the year under review, its average running time was restricted to less than 17½ hours a day owing to the Central Electricity Board's restriction on power.

Rambutan Pays 12½ per cent

Rambutan, which owns about 1,146 acres of alluvial tin-bearing ground in the Kinta district of Perak, Malaya, treated 384,300 cu. yd. during the year ended June 30, 1950, or more ground than it had worked in any one year since 1939. However, recovery value per cu. yd. averaged 0.59 lb. against 0.61 lb. in 1949 so that the total output of 101.25 tons was only slightly higher than the 100.14 tons produced in the previous 12 months. While the price received for tin rose to £356 1s. 1d. per ton (£343 6s. 9d.) and largely accounted for the total gross revenue of £51,254 against £48,242, production costs which had risen to £179 1s. 9d. per ton (£146 18s. 5d.) were similary reflected in the profit and loss account, and net profit, before taxation, worked out at £23,552 or actually £48 less than the net profit in the preceding 12 months.

From the £28,697 (£26,674) available, taxation called for £13,139 and dividend payments, which were raised to 12½ per cent (11.25 per cent) absorbed £6,875, leaving the carry forward higher at £8,683 compared with £5,033 in 1949.

Mr. Stanley Wickett, chairman, in his statement, said that assessment of the company's claim for War Damage was expected shortly, but it appears that owing to limitation of funds compensation for damage suffered as the result of the Japanese occupation will be "drastically scaled down." So far the company has received from the Malayan Government the sum of £12,560 which compares with the £13,217 standing in the balance sheet at the company's year end on rehabilitation account.

Although output for the first six months of the current year at 41¾ tons was 12 tons less than that produced in the corresponding period of 1949, the substantial increase in the price of tin during this period should more than offset any decrease in production.

Barrow Hepburn's Excellent Results

Trading profits of the Barrow Hepburn & Gale group of leather companies more than doubled in 1950, the figures being £1,277,587 against £635,862 in 1949. These excellent results undoubtedly owe something to the continued rise in prices, but they also reflect the full effect of the company's expansion scheme which has been proceeding since 1945. Nevertheless, the board have viewed the present high prices with some concern, and accordingly have transferred to reserves or to depreciation out of a net profit of £636,458 (£253,344), no less a sum than £533,584.

From the £944,665 (£466,740) available Ordinary shareholders receive 25 per cent and holders of the six per cent Preference shares receive nine per cent, absorbing a total net amount of £96,800 against £83,050 and leaving the carry forward higher at £314,281 compared with £308,207 in 1949.

The group continues to make good progress with its plans for extending, re-equipping and, where necessary, re-building its premises, and last year spent £368,346 on new premises and plant.

The company has been trying to persuade the C.I.C. to allow it to make a bonus issue of £100,000 to bring its nominal capital more into line with its real capital but this request has been refused. However, the Treasury has sanctioned the issuance of £100,000 Employees' Bonds which provide fixed interest at three per cent and participation in the Ordinary dividend to the extent of half the Ordinary dividend over six per cent. At the present rate (25 per cent) these bonds would therefore yield 12½ per cent—a real incentive to the employees to share in the profits.

Rand Gold Mines

The 20th edition of Sturzenegger's *The Rand Gold Mines*, compiled and published by Mr. L. W. Parker, continues to be as valuable as ever for the investor, the speculator or the merely inquisitive.

All the data necessary for the understanding of the technical and financial position of gold mines on the Rand as well as in the Orange Free State are given, together with pertinent comments on the shares concerned. With two of the O.F.S. mines, St. Helena and Welkom, expected to crush this summer, sound and impartial judgment on the prospects of the mines in the O.F.S. is more than ever necessary to keep this rich new field in perspective. This, of course, is exactly what Mr. Parker has done in the past and has achieved once more, despite the fact that this new edition has had to be completely revised in the light of a year's experience of devaluation and the higher gold price.

Copies may be obtained from L. W. Parker, 27, Throgmorton Street, London, E.C.2. Price 40s. Post free, including quarterly supplements.

Company Shorts

Harrietville (Tronoh) have announced that from January 14 to February 10 its dredge ran 464 hours and dredged 209,800 cu. yds., from which 373 oz. of gold were recovered of an estimated value of £A.5,671.

Flooding Stops Kepong Dredge.—Owing to exceptional rains, causing flooding and extensive damage to bunds above and below Kepong Dredging's property it was necessary to stop the dredge on January 27. As far as can be anticipated, the company announces the duration of the stoppage will be approximately six weeks.

New Union Goldfields.—The 12th report of the judicial managers of New Union Goldfields contains two interesting letters. One is from a solicitor who has been instructed to apply to the court for the cancellation of the judicial management of the company. The applicants "feel that the purpose of the order for judicial management has been fulfilled" and, consequently, the company should now be reinstated and operated under her own board of directors. The other letter, a reply from the judicial managers, rejects the idea that the judicial management has served its purpose. They outline the difficulties connected with finding a new board of directors and also estimate that minimum cash deficiency could be put at £750,000 and maximum deficiency at £2,000,000. No useful purpose could be served by lifting the judicial management, they add, unless the major outstanding claims against the company are disposed of; the interest on concurrent claims is paid or compromised; dividend creditors are paid; the company is provided with sufficient working capital.

Rand Selection & S.A. Towns to Merge.—Details of the proposed merger between Rand Selection Corporation and South African Townships, Mining and Finance Corporation were announced in circulars sent to shareholders at the end of last week. Both of these corporations are mining finance companies in the Anglo American Corporation group and both are interested in the development of the Orange Free State.

Rand Selection Corporation, in its circular, stated that the company's board had been considering the advisability of increasing its interest in the developing mines of the Orange Free State for some time and had decided that an offer for S.A. Townships, which has a large proportion of its assets invested in these mines, would best achieve this object. Holders of S.A. Towns are to be offered one Rand Selection share in exchange for every two held. Contingent upon this offer being accepted, Rand Selection will need "considerable sums to finance S.A. Townships to develop its township properties and to follow up its O.F.S. investments," and therefore will propose to shareholders that its authorized capital be increased from £1,250,000 in 5s. shares to £2,000,000 by the creation of 3,000,000 new 5s. shares.

If this proposal is approved Rand Selection Corporation will make an agreement with Anglo American Corporation of South Africa, whereby the latter would provide Rand Selection with loan facilities up to £1,000,000 carrying a minimum interest rate of three per cent up to March 31, 1954, the loan to be repaid in full not later than April 1, 1954. Furthermore, the existing agreement between the two companies, whereby Rand Selection is entitled to 25 per cent of new business taken up by Anglo American, would be extended from October 1, 1954, to October 1, 1960 and increased to 30 per cent of Anglo American's net participation. A third clause in this agreement provides that Anglo American Corporation will be given the right to subscribe for up to 400,000 shares in Rand Selection at the price of 45s. per share at any time up to, and including, March 31, 1954. If this right is exercised, Anglo American will have the right to demand that the loan facilities be reduced by a sum equal to the amount paid by Anglo American in subscribing for the shares.

Provided there is no change in the general situation, the board of Rand Selection gives it as their opinion that the present dividend rate of 2s. per share should be maintained on the increased capital "and that this rate should increase as developing mines in the Orange Free State reach production." The U.K. Treasury has consented to the circulation of the offer in Great Britain.

S.A. Townships is making arrangements to pay its dividend in respect of 1950 before the opening of the Rand Selection offer, thus enabling S.A. Townships shareholders to participate both in their own Corporation's dividend for 1950 and any dividend declared by Rand Selection in respect of the year to September 30, 1951.

Present issued capital of S. A. Towns is 4,800,000 shares of 10s. each, so that approximately 2,400,000 Rand Selection shares may be needed for the offer. Additionally, 400,000 Rand Selection shares will have to be held in reserve against the option granted to Anglo American Corporation to take up to this number of shares until March 31, 1954.

Topical News in Brief

India to Manufacture Diesel Engines.—A factory to manufacture British patented Diesel engines has, according to Reuter, just been set up in Poona by an Indian engineering firm, under an agreement with Petters and the British Oil Engines Company of Britain.

Uranium Deposits Found in Bavaria.—According to recent reports received in this country, important deposits of uranium ore have been found in North Bavaria. They are situated in a zone about 100 kilometres long and extending in a south-easterly direction from Amberg towards the Czechoslovak frontier.

Peru Mining Development.—According to reports from Peru, the Northern Peru Mining-Smelting Co. is hoping to complete the exploration of the low-grade copper deposits of Toquepala and Quellaveco, both in South Peru, by the end of this year.

An allocation of 1,000,000 soles has been made in this year's budget for the purpose of surveying the Marcona iron ore deposits.

New Ore Field Discovered in Sweden.—A new ore field in the Arvidsjaur and Pitea parishes, North Sweden, discovered in the course of electric prospecting last summer and believed to be an offshoot of the large Kristineberg field, has proved to hold iron pyrites containing gold, silver and copper. Test borings will now be made to ascertain whether mining is worth while.

Leadhills— Further Developments Probable.—A private mining company, whose name is being withheld in the meantime, is reported to be interested in the possibility of re-opening the lead mines at Leadhills, on the Lanarkshire-Dumfriesshire border. Representatives of the Ministry of Supply recently visited the area. The First District Council of Lanarkshire have been informed that "there is now considerable optimism regarding future developments."

Denain Rolling Mill in Operation.—The new continuous rolling mill of the U.S.I.N.O.R. (Union Sidérurgique du Nord de la France) at Denain—one of the most important post-war industrial projects both in France and on the Continent—started trial operations on December 27, 1950. This mill, together with the previously completed cold rolling mill at Montataire, will make France independent of imported steel sheets.

Old Diamond Mines May Re-Open.—Depending on the results of sampling, de Beers Consolidated Mines may re-open two famous old diamond mines at Kimberly—the de Beers mine and the Kamfersdam mine. Mining at the de Beers mine was suspended in 1908 and at Kamfersdam in 1907 because profitable operations under existing conditions could not be maintained. The recent boom in diamonds and higher prices for gem and industrial stones have resulted in investigations at both these old mines into the possibility of resuming operations on a profitable basis.

Wolfram Ore Mining in France.—The foremost French wolfram occurrence is situated in the Allier department. Exploitation started first in 1917 but economic production became possible only since last year as a result of the installation of new U.S. machinery and equipment. Daily output aggregates at present 250 to 300 tonnes, yielding 12 to 15 kilogrammes of wolfram metal per day. Output from the Allier deposits amounted in 1949 to 300 tons of wolfram concentrate, or to about one-half of the country's total. This quantity covered roundly 15 per cent of the requirements of the French steel industry at that time. In order to become independent of important supplies, it is planned to erect an additional plant in the region.

Oil from Coal in South Africa.—It is expected that a combination of the Fischer-Tropsch (German) and American processes will be used for the production of oil from coal at the Union's first plant at Coalbrook, a small Orange Free State railway siding, states a Reuter report from Johannesburg. According to an announcement by Mr. N. C. Havenga, Minister of Finance, £18,000,000 had been put aside to finance the production of oil from coal, and a spokesman of the oil-from-coal scheme said that this implied that the original plan had been expanded to allow for additional expenditure of £5,000,000; this means that 60,000,000 gallons of motor spirit and Diesel fuel will be produced per annum, the target date for production being 1955. The interim committee, which considered the scheme originally, suggested to the Minister of Economic Affairs, Mr. E. H. Louw, that £13,000,000 should be spent for plant to produce 35,000,000 gallons of motor spirit and Diesel oil per annum.

TEKKA, LTD.

MR. STANLEY WICKETT'S STATEMENT

The Thirtieth Ordinary General Meeting of Tekka Ltd., was held on February 19th at the Registered Office, Redruth.

Mr. Stanley Wickett (Chairman), presided.

The Report and Accounts for the year ended March 31, 1950, having been circulated for the prescribed time, were taken as read, as was also the Chairman's Statement, circulated with the Report and Accounts, which was as follows:

The Accounts for the year ended March 31, 1950, show a gross profit of £20,888, a decrease compared with that of the previous year, due to the lower grade of ground treated. Provision for United Kingdom taxation requires £6,728, the sum of £7,241 having been previously paid to the Malayan Government in Royalty on tin ore, thus again the Governments are the principal beneficiaries of the results of working the mine.

Two Interim Dividends of 3d. per share were paid to shareholders and after the transfer of £7,402 to General Reserve, your Directors have declared a dividend of 3d. per share making a total of 3¾ per cent for the financial year covered by the accounts leaving the balance of Profit and Loss Account at £27,578, slightly less than that brought in from the previous year.

The advance received from the Malayan Government remained at the figure of £19,260 while at the close of the accounts expenditure carried forward in suspense on Rehabilitation account amounted to £27,196, included in the Company's claim for War Damage. Assessment of the claim is expected shortly, but under the terms of an announcement made by the Malayan Government it appears that owing to limitation of funds compensation for damage suffered as the result of Japanese occupation will be drastically scaled down.

The Report of the General Managers, which is appended, gives a summary of work at the mine together with the usual comparative figures from which it will be seen that the tin price was approximately the same as that of the previous year, but as anticipated the grade of ground was very much lower, this, however, being partly offset by the large increase in the yardage which it was possible to treat at the less confined workings.

Shareholders have been advised by postcards of the following outputs of tin ore:

April—June, 1950. Output of tin ore ... 675 piculs (40 tons)
July—Sept., 1950. Output of tin ore ... 440 piculs (26 tons)
Oct.—Dec., 1950. Output of tin ore ..... 390 piculs (23¼ tons)

These figures, over a similar period, show a slight increase for the current year, but recently the tin price has been high and if maintained should permit profitable exploitation of marginal ground while providing a modest return to shareholders.

The International Conference for Tin, to which I referred last year, was convened by the Secretary-General of the United Nations and met at Geneva during October and November. It is understood that various International measures to meet problems confronting the tin industry were examined, but were found to differ so widely in their method of operation that further consideration by the interested Governments was necessary. The Conference adjourned towards the end of November after instructing its Chairman to keep developments under constant review and to decide a suitable date for its resumption.

Conditions in Malaya, largely by reason of external developments, have continued to be difficult and shareholders will I know again wish me to express high appreciation of the work of our General Managers and our Staff, not only in carrying out their normal duties, but as outposts of law and order.

CHAIRMAN'S ADDITIONAL REMARKS

The Chairman, addressing the meeting, referred to the sudden death last month of Mr. P. B. Marriott, who was a highly valued member of the firm of Messrs. Osborne & Chappel, the Company's General Managers in Malaya. Mr. Marriott was due for retirement from the East this year and his death was undoubtedly accelerated by the present difficult and strenuous conditions in Malaya. The sympathy of the Board and of the Shareholders was extended to his wife and family, and to his colleagues in the East.

Continuing, he said: I am pleased to inform you that in view of recent returns your Directors have to-day felt justified in declaring an Interim dividend of sixpence (6d.) per share in respect of the current financial year, payable on March 21 to Shareholders registered on February 23, 1951. I must advise you, however, that in the last routine report received from the General Managers they stated that the workings will be entering lower grade ground in the immediate future. It may not be possible to maintain the standard of dividend at this higher rate, as this will of course depend upon production from the mine and the price of tin.

It may be of interest to Shareholders to know that at to-day's prices the value of the Company's investments in Dated Government Stock and Industrial and Mining shares is £134,000, as compared with £117,000 at March 31, 1950 shown in the Balance Sheet.

The statement of Accounts and Balance Sheet, together with the Directors' Report, were received and adopted.

BARROW HEPBURN & GALE

RECORD TRADING RESULTS
PROBLEM OF RAW MATERIAL COSTS

The 30th Ordinary Annual General Meeting of Barrow Hepburn & Gale Ltd. will be held on March 15th in London.

The following is an extract from the statement by the Chairman and Managing Director, **Mr. George W. Odey, C.B.E., M.P.**, circulated with the report and accounts for the year 1950:

It is with very great pleasure that I am able to report to the shareholders a most successful year's trading, which represents a record for our group of companies. The trading profit for the year of £1,277,587 as against £635,862 for 1949, is an indication of the further expansion that has taken place in production and turnover, which has been made possible by the fact that much of our re-building programme and re-equipment had been completed by the end of 1949. The effect of de-control has been to free our group of companies from the many restrictions on progress and expansion which are the result of control, accompanied as it inevitably is by a system of allocation of raw material based on performance over previous years. After ten years of control it has been necessary to reorganize the activities of our group of companies so that we could resume the purchase of our own raw materials and adjust our whole organization to the conditions of a free and competitive market. We have had to carry out this task under difficult conditions. The price of our raw material, which already seemed high at the beginning of the year, was more than doubled before the year was concluded.

The steep advances in the cost of our raw materials have inevitably placed a considerable strain upon our financial

OAKLAND METAL COMPANY LIMITED
LONDON OFFICE: 94, New Bond Street, London, W.1
Telephone: GROsvenor 5241/4. Cables: AMOMET LONDON.
Telegrams: AMOMET WESDO LONDON.

WANTED REGULARLY

SOLDER AND WHITE METAL (Scrap & Ashes)
BRASS/COPPER RADIATORS of every description.
BRASS SKIMMINGS
SCRAP LEAD CABLE
IRONY ALUMINIUM SCRAP
SCRAP ZINC
ZINC ASHES
SCRAP DIECAST ZINC
NICKEL IRON BATTERIES
NICKEL AND NICKEL ALLOY SCRAP
TUNGSTEN & MOLYBDENUM SCRAP
CADMIUM SCRAP

OAKLAND WORKS · WILLINGTON · DERBY
Telephone: REPTON 391 and 392

resources, and it is a source of great satisfaction to us that by putting large sums to reserve, we have been able to maintain the financial strength of the company.

It is necessary, in reviewing these very satisfactory results, to bear in mind that part of the profit has been due to the very considerable appreciation in stock values which has taken place almost continuously throughout the year and at a greatly accelerated rate since the Korean crisis developed. Broadly speaking, we can say that during the first half of the year we found it necessary to increase our prices for leather as a result of the devaluation of the pound in the previous September and in the second half of the year greatly increased U.S.A. purchases of hides in South America, due to the American re-armament programme, has resulted in substantial increases in prices in the international hide market. Importing as we do over 75 per cent of our raw material supplies, we have had no option but to follow these increased prices or, alternatively, to reduce input, with the consequential unemployment of our work people. We have elected in these circumstances to maintain input and deal with the position by a substantial increase in our stock valuation reserve.

We have set aside £575,140 for taxation, which leaves a balance of net profit for the year, after taxation, of £636,458. If we add £308,207 brought forward from the previous year, we are left with £944,665 for disposal.

After detailing the various appropriations, the statement continues: We are thus left in the excellent position of having capital reserves of £289,676 and revenue reserves of no less than £914,195. Having regard to the fact that the ordinary dividend was maintained at 6 per cent throughout the war years, and has stood at 20 per cent since 1946, your board felt that it would not in any way contravene the requirements of national policy to increase the ordinary dividend from 20 per cent to 25 per cent.

It is your board's intention, if the rate of ploughing back profits can be maintained and subject to the necessary permission being granted by the Capital Issues Committee, to restore to the Ordinary shareholders a further portion of the capital that was written off and so establish a proper balance between the Preference and Ordinary shareholders.

The board has recently increased the Share Capital of the company by a bonus issue of £50,000 of Ordinary Shares. An application recently submitted to the Capital Issues Committee for a further bonus issue of £100,000 Ordinary shares has been refused. An application will be re-submitted at a later date when conditions appear to be more favourable.

THE OUTLOOK

With regard to the immediate trading prospects of 1951, it is again quite impossible to make any reliable forecast. The recent steep advance in the cost of our raw material has created a very grave problem. The price of the hide is by far the most important factor in the price of leather. Tanners in this country view the position with the greatest concern, but a return to control with a resumption of Government bulk purchase of our raw material, and a re-allocation of supplies, would appear to be no solution to our problems unless, of course, the Government were prepared to re-introduce a substantial subsidy on leather prices, which is surely a most remote contingency. We have, therefore, no alternative but to continue to use our utmost efforts to reduce the cost of our raw material to more reasonable levels and at the same time to maintain leather supplies for both civilian and service requirements.

INVESTIGATIONS & MANAGEMENT LTD.,
Technical Consultants to
THE NANWA GOLD MINES LTD, SILVERMINES LEAD & ZINC CO., LTD.
and other mining companies, are continually requiring mining staff of all grades. Apply to Secretary, Finsbury House, Blomfield Street, London, E.C.2, giving record of service, references, etc.

MINE SURVEYOR urgently required for service on Gold Mine in Gold Coast Colony. Must be suitably qualified and conversant with underground mining. Salary £750 to £825 per annum plus £96 per annum cost of living allowance, contract for 15 months, 3 months on full salary subject to renewal. Apply with details past experience, reference, etc. to Secretary, Investigations & Management, Ltd., Finsbury House, Blomfield Street, London, E.C.2, or telephone: London Wall 1076 for appointment.

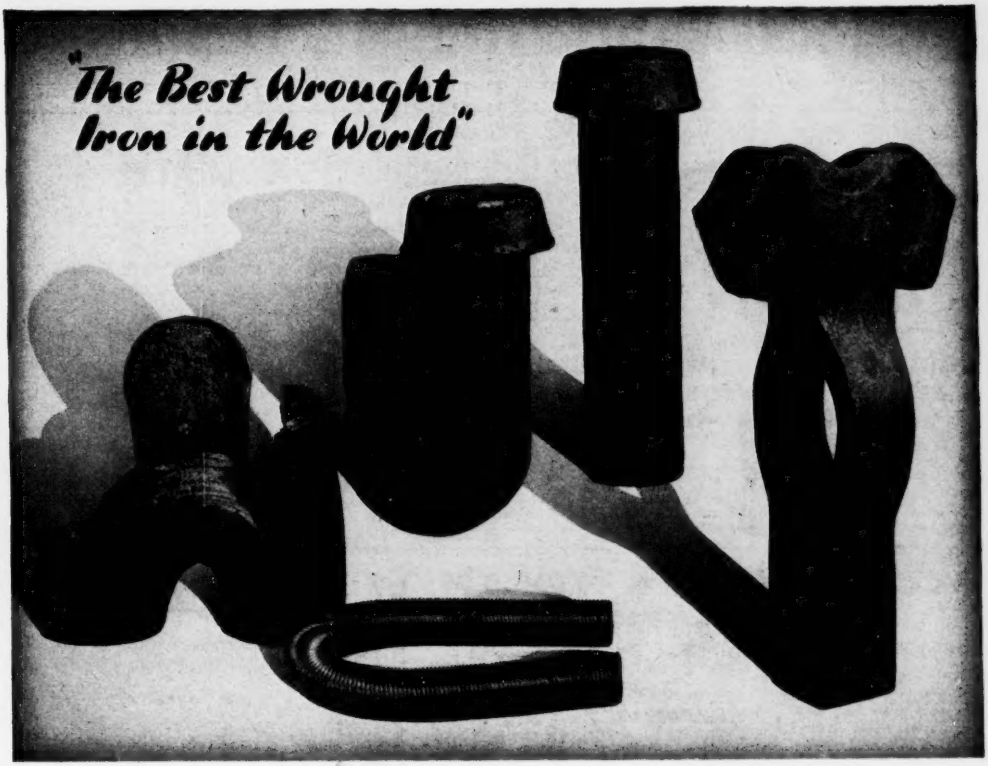
DIVIDENDS

Amalgamated Anthracite Collieries 1¾% (April 1)
American Smelting and Refining $1
Bank of Montreal 25c.
Bede Metal & Chemical 12½%
British Tyre & Rubber 20%
Cable & Wireless Holding 6%
Consolidated Mines Selection 25%
Electrolytic Zinc of Australasia 10% *i* (May 4)
Filani (Nigeria) Tin 5% *
Geevor Tin Mines 15% *i* (March 7)
Gold Mines of Kalgoorlie 12½% *i* (April 9)
Gopeng Consolidated 15% *i* (March 7)
Harrisons & Crosfield 7½% *i* (April 6)
Kamunting Tin 12½% *i* (March 7)
Lahat Mines 25% *i* (February 20)
Noranda Mines $1 *i*
Pengkalen 20 % *i* (March 14)
Royal Bank of Canada 2½% (March 1)
Southern Kinta Consolidated 12½% *i* (March 7)
Sungei Kinta Tin 5% *i*
Taiping Consolidated 10% *i*
Taquah & Abosso Mines 5% *i* (March 29)
Tecalemit 9%
Tekka 6d. *i* (March 21)
Tongkah Harbour Tin 25% (March 21)
U.S. Steel Corporation 75c.
United Steel Companies 5.0192% (March 28)
Vereeniging Estates 15% (March 22)
Witbank Colliery 2s. (March 1)

i interim * Tax free

W. E. SINCLAIR, M.I.M.M.
Consulting Mining Engineer
South & East Africa & Rhodesia
P.O. Box 1183. JOHANNESBURG

RUBBER LININGS
FOR ACID RESISTANCE
●
ALL TYPES OF TANKS LINED IN SITU WITH NORDAC ACID RESISTING RUBBER.
●
RUBBER LINED PIPE INSTALLATIONS SUPPLIED COMPLETE WITH VALVES, PUMPS AND FITTINGS.
●
NORDAC LIMITED
CHEMICAL ENGINEERS
COWLEY MILL ROAD,
UXBRIDGE, MIDDLESEX.
Telephone: UXBRIDGE 5131



By every test LOWMOOR IRON proves its superiority. It is a material which for toughness, strength, ductility and resistance to corrosion is fully dependable and can justifiably be described as the best wrought iron made. LOWMOOR IRON is especially suitable for heat treatment by annealing or normalising. No special preparation is required and it withstands repeated treatment without deterioration.

★ *Every length of Lowmoor wrought Iron is clearly marked with a repetitive "LOWMOOR" inscription. When you specify Lowmoor Iron make sure this brand is identified.*

LOWMOOR

TRIPLE HAMMERED

WROUGHT IRON

ROLLED BARS · HAMMERED BARS · PLATES · RIVETS · CHAINS

LOWMOOR BEST YORKSHIRE IRON LTD
LOW MOOR · YORKS

L/4

Metal and Mineral Trades

THE BRITISH METAL CORPORATION LIMITED

HEAD OFFICE
PRINCES HOUSE, 93 GRESHAM STREET, LONDON, E.C.2
Tel. Monarch 8055

AND AT

17 SUMMER ROW, BIRMINGHAM
Tel. Central 6441

47 WIND STREET, SWANSEA
Tel. Swansea 3166

OVERSEAS ASSOCIATES

THE BRITISH METAL CORPORATION (AUSTRALIA) PTY., LIMITED, SYDNEY, PERTH, AND MELBOURNE

THE BRITISH METAL CORPORATION (CANADA) LIMITED, MONTREAL

DREW, BROWN, LIMITED MONTREAL

THE BRITISH METAL CORPORATION (INDIA) LIMITED, CALCUTTA AND BOMBAY

THE BRITISH METAL CORPORATION (SOUTH AFRICA) (PROPRIETARY) LTD., JOHANNESBURG

C. TENNANT, SONS AND CO. OF NEW YORK, NEW YORK

CONSOLIDATED TIN SMELTERS, LIMITED.

PRINCES HOUSE, 95 GRESHAM STREET, LONDON, E.C.2

Telephone: MONarch 7661 8 *Telegrams: CONSMELTER, PHONE LONDON*

PROPRIETORS OF THE FOLLOWING BRANDS OF LAMB & FLAG AND STRAITS TIN

ENGLISH (COMMON & REFINED) CORNISH MELLANEAR PENPOLL **STRAITS** E. S. COY., LTD., PENANG

BUYERS OF ALL CLASSES OF TIN ORES

Sole Selling Agents: VIVIAN, YOUNGER & BOND, LIMITED.

8, BASINGHALL STREET, LONDON, E.C.2. *Telephone:* MONarch 7221/7

GOLD
SILVER
PLATINUM

IN ORES, CONCENTRATES, SLAG and BY-PRODUCTS

We are SMELTERS and REFINERS. *Please send full particulars and samples:*

DERBY & Co. Ltd. 62 - 63 Cheapside, London, E.C.2

SMELTING and REFINING WORKS: BRIMSDOWN (near London) Middlesex (Established 1797)

Telegrams: PLATIVET, LONDON. Telephone: CITY 2633

Cable Address: WAHCHANG, NEW YORK

WAH CHANG CORPORATION

(FORMERLY WAH CHANG TRADING CORPORATION)

233 BROADWAY - - NEW YORK 7, NEW YORK

TUNGSTEN TIN

BUYERS
Tungsten Concentrates, Tungsten Tin Concentrates
Mixed Tungsten Ores
Tungsten Tailings, Scrap, Tips, Grindings
Tin Concentrates—Tin Dross, Tin Furnace Bottoms

SELLERS
Tungsten Concentrates to Buyers' Specifications
Tungsten Salts, Tungsten Powder
Tungsten Rods and Wires
Tin Ingots, Tin Oxides, Tin Chlorides

PLANT—GLEN COVE, NEW YORK

THE BRITISH TIN SMELTING COMPANY LIMITED

English Refined Tin

"HAWTHORNE" Brand

W. E. MOULSDALE & CO., LTD.
General Agents
2 CHANTREY HOUSE, ECCLESTON STREET, LONDON, S.W.1

THE STRAITS TRADING Co. Ltd.

SINGAPORE

Straits Refined Tin

"Straits Trading Co. Ltd." BRAND

Correspondents in U.K.
W. E. MOULSDALE & CO., LTD.
2 CHANTREY HOUSE, ECCLESTON STREET, LONDON, S.W.1

GEORGE T. HOLLOWAY & CO. LTD.

METALLURGISTS & ASSAYERS,
ORE TESTING, WORKS AND
METALLURGICAL RESEARCH LABORATORIES

Atlas Road, Victoria Road, Acton,
LONDON N.W.10

Telephone No.: ELGAR 5202
Tels. & Cables: NEOLITHIC LONDON

THE ANGLO METAL COMPANY LIMITED

2 & 3, CROSBY SQUARE,
LONDON, E.C.3
(Members of the London Metal Exchange)

NON-FERROUS METALS
ORES & CONCENTRATES
BULLION

Telephone: LONDON WALL 6341 (Private Branch Exchange)
Telegrams: NUCLIFORM PHONE LONDON
Cables: NUCLIFORM, LONDON

Telegrams: "BASSETT, PHONE, LONDON."
Telephone: MANSION HOUSE 4401/3.

BASSETT SMITH & Co. Ltd.

(Incorporating George Smith & Son)

15/18 LIME ST., LONDON, E.C.3

METALS,
ORES (Copper, Zinc, Lead, &c., Complex),
RESIDUES, SKIMMINGS & ASHES
NON-FERROUS SCRAP

A. STRAUSS & CO. LTD.

FOUNDED 1875

37-39 LIME STREET, LONDON, E.C.3

Telephone: Mansion House, 6276

MERCHANTS, EXPORTERS, IMPORTERS

NON-FERROUS METALS
SCRAP RESIDUES

METAL REFINERS

Members London Metal Exchange

ESTABLISHED 1869

BLACKWELL'S METALLURGICAL WORKS LTD.

THERMETAL HOUSE, GARSTON, LIVERPOOL, 19

MAKERS OF
FERRO ALLOYS, NON-FERROUS ALLOYS,
RARE METALS

BUYERS AND CONSUMERS OF
COLUMBITE, TANTALITE, TUNGSTEN
MANGANESE and all ORES.

Works, Garston: Telegrams: Blackwell, Liverpool.

EVERITT & Co. Ld.

40 CHAPEL STREET
LIVERPOOL

Teleg. Address: Persistent, Liverpool Phone: 2995 Central

SPECIALITY

MANGANESE PEROXIDE ORES,

We are buyers of:—
WOLFRAM, SCHEELITE, MOLYBDENITE
VANADIUM, ILMENITE, RUTILE,
ZIRCONIUM and TANTALITE ORES

Suppliers of:—
FERRO-ALLOYS & METALS NON-FERROUS ALLOYS

THE ANGLO CHEMICAL & ORE COMPANY LIMITED

PALMERSTON HOUSE, BISHOPSGATE, LONDON, E.C.2

Importers and Exporters MINERALS · ORES · RESIDUES · CHEMICALS · NON-FERROUS METALS & SCRAP

TELEPHONE: LONDON WALL 7255 (5 lines) TELEGRAMS: CHEMORE

Consult
JOHN DALE
LIMITED
about Aluminium Alloy Gravity Die Castings

This Governor housing for a Diesel pump mechanism was die cast in Aluminium Alloy by John Dale. A useful application of Aluminium Alloy where lightness combined with strength, clean natural finish, etc. are vital.

JOHN DALE LTD.
Dept. TS.7, LONDON COLNEY, ST. ALBANS, HERTS. Tel: London Colney 3141

The Commercial Smelting and Refining Co. Ltd.

MACKINTOSH LANE, HOMERTON, LONDON, E.9

Manufacturers of
Gunmetal, Bronze, Brass and White-metal Ingots to all Standard Specifications
Buyers of
Scrap Metals and Metallic Residues
Telephone: Amherst 5446 (3 lines) Telegrams: Metsmelt, Hack, London

RHONDDA METAL CO. LTD.
1 HAY HILL BERKELEY SQ. LONDON W.1
Works: PORTH, GLAM.
PHOSPHOR COPPER
SILICON COPPER MANGANESE COPPER
ALL NON-FERROUS ALLOYS
Telephone: MAYFAIR 4654 Cables: RONDAMET

LEOPOLD LAZARUS LIMITED
Creechurch House, LONDON, E.C.3
(Also at BIRMINGHAM and MANCHESTER)
Telegraphic Address: Orminiaz, London
Buyers of:
NON-FERROUS SCRAP, ORES AND RESIDUES
Sellers of:
SEMI-MANUFACTURED NON-FERROUS METALS

Telegrams: NONFERMET TELEX, LONDON
Cables: NONFERMET LONDON
Telephone: MANSION HOUSE 4521 (10 lines)

HENRY GARDNER & CO. LTD.

Non-Ferrous Metals
Ores Minerals & Residues
Rubber
General Merchandise

2 METAL EXCHANGE BUILDINGS
LONDON, E.C.3
and at
BIRMINGHAM, MANCHESTER and GLASGOW

CUPELS
MAGNESIA CUPELS and ASSAY MATERIAL "MABOR" BRAND, as supplied to MINTS, MINES and ASSAYERS throughout the World.
MABOR (1944) LIMITED
(Founded 1900)
THE PIONEERS OF MAGNESIA CUPELS
Registered Office: 310 Winchester House, London, E.C.2
Phone: London Wall 5089 *Tel. Address:* Maborlim, London
Agencies: SALEM, INDIA: MONTREAL, CANADA: PERTH, W.A.
Supplies through Agents, the Trade, or direct

BUYERS & SELLERS | all grades NON-FERROUS METAL SCRAP and RESIDUES; REDUNDANT METALS

RICHMOND METAL CO., LTD.
20 Queen Caroline Street,
HAMMERSMITH,
London, W.6
Phone: RIVerside 4289 - 7359 - 7201

WORKS ACCUMULATIONS promptly cleared

ALFRED HARRIS & Co. (Richmond) Ltd.
FOR ALL SCRAP METALS
Specialities:—
NICKEL MOLYBDENUM TUNGSTEN
MANOR PARK, RICHMOND, SURREY *Phone: 0028/9*

P. & W. MACLELLAN LTD.
129 TRONGATE, GLASGOW
NON-FERROUS METALS all classes
INGOT SCRAP MANUFACTURED
Letters: P.O. Box 95 Clagow
Telegrams: Maclellan, Glasgow Telephone: Bell 3403 (20 lines)

METAL TRADERS LTD.
7 Gracechurch Street, LONDON, E.C.3
New York Representative:
Metal Traders Inc., 67 Wall Street
Buyers and Sellers of
NON-FERROUS METALS
ORES AND MINERALS
TEL. ADDRESS: SEROLATEM, STOCK, LONDON
TELEPHONES: MANSION HOUSE 7275-7276-7277

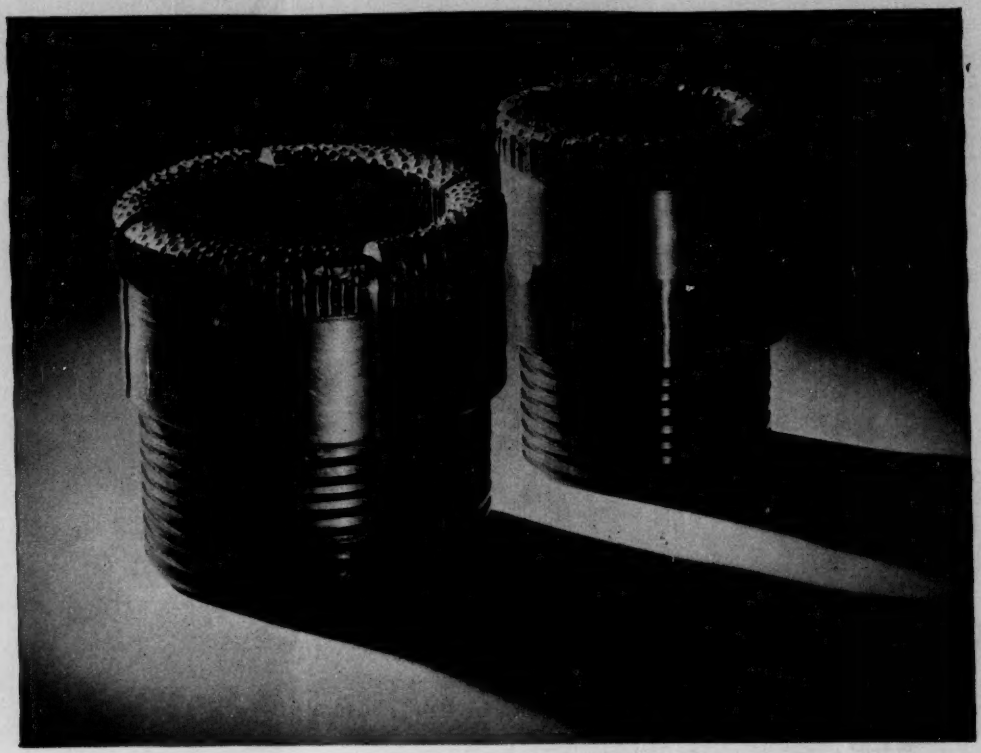
BROOKSIDE METAL CO. LTD.
(Owned by Metal Traders Ltd.)
Honeypot Lane, STANMORE, Middx.
Buyers and Sellers of
ALL NON-FERROUS SCRAP METALS
Specialists in ALUMINIUM
TEL. ADDRESS ALUMINIUM, STANMORE
TELEPHONES: EDGWARE 1646-1647

Established 1912. Cables: "Hostombe"
Buyers of
LITHIUM ORES & BERYL
R. HOSTOMBE LTD.
2, REGENT STREET · SHEFFIELD · ENGLAND

MINING & CHEMICAL PRODUCTS, LTD.
MANFIELD HOUSE, 376, STRAND, W.C.2
Telephone: Temple Bar 6511/3 Works: ALPERTON,
Telegrams: "MINCHEPRO, LONDON" WEMBLEY, MIDDLESEX
Buyers of silver ores and concentrates
Smelters and Refiners of
BISMUTH
ORES, RESIDUES & METAL
Nickel and chrome plating
Refined and Commercial
ARSENIC, CADMIUM, INDIUM,
SELENIUM, CAESIUM SALTS, TELLURIUM, THALLIUM
Manufacturers of
FUSIBLE ALLOYS SOLDER WHITE METALS
ANODES OF TIN, CADMIUM and ZINC

The Mining Journal
1951
ANNUAL REVIEW
NUMBER
Summarizes events and statistics of 1950
Will be Ready in May
● Orders for copies should be placed direct, or through Newsagents.
5s. 0d. post free.
Write: The Publisher, Mining Journal,
15 George Street, London, E.C.4

COMPLEX
& LOW GRADE
MATERIALS *
are treated on
toll or bought
outright by
Capper Pass
* containing principally TIN and/or LEAD whether free from or combined with any of the metals COPPER, ANTIMONY, BISMUTH and SILVER
Send Samples to them at
P.O. Box 237 BRISTOL ENGLAND



The Test lies in performance

You know what your diamond drilling costs you. Nothing but a trial of our product can really convince you that we are able to effect economies for you. We want you to give us that opportunity. We believe it will pay you. The figures that will emerge from your use of one or other of our Diamond Drill Bits will justify you to the hilt in giving us your regular business. Smit's Hi-cast, Hardhed and Ferret Bits are made in all the standard sizes and types, as well as off-standard, to meet individual drilling needs. We can help you to the best and most suitable for your purpose. Should your particular drilling problem call for anything that is not covered by the standard range, we will evolve and make the bit that will give you the best and most economical service. Will you not get into touch with us? Write to us for our "Low Cost Diamond Drilling" Folder, free on request.

SUPER MATERIAM IGNIS TRIUMPHANS

Est 1688

J. K. Smit & Sons Ltd.

Head Office: (Dept. DD) 57-59, Victoria Street, London, S.W.1.

and in New York, Detroit, Toronto and Amsterdam.

Printed in England for The Mining Journal Ltd., by Samuel Sidders & Son Ltd., 115, Salusbury Road, London, N.W.6. Registered as a Newspaper.